US006910187B2

(12) **United States Patent**
Felkey et al.

(10) **Patent No.: US 6,910,187 B2**
(45) **Date of Patent: Jun. 21, 2005**

(54) **GRAPHICAL USER INTERFACE FOR PROCURING TELECOMMUNICATIONS SERVICES ON-LINE**

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(73) Assignee: **MCI, Inc.**, Ashburn, VA (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 513 days.

(21) Appl. No.: **10/051,182**

(22) Filed: **Jan. 22, 2002**

(65) **Prior Publication Data**

US 2002/0140741 A1 Oct. 3, 2002

Related U.S. Application Data

(60) Provisional application No. 60/263,222, filed on Jan. 23, 2001.

(51) **Int. Cl.**[7] **G06F 15/00**
(52) **U.S. Cl.** **715/733**; 715/854
(58) **Field of Search** 715/733, 740, 715/751, 854

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6,473,097 B1 * 10/2002 Elliott 345/733

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U.S. Appl. No. 10/051,180, filed Jan. 2002, Felkey et al.

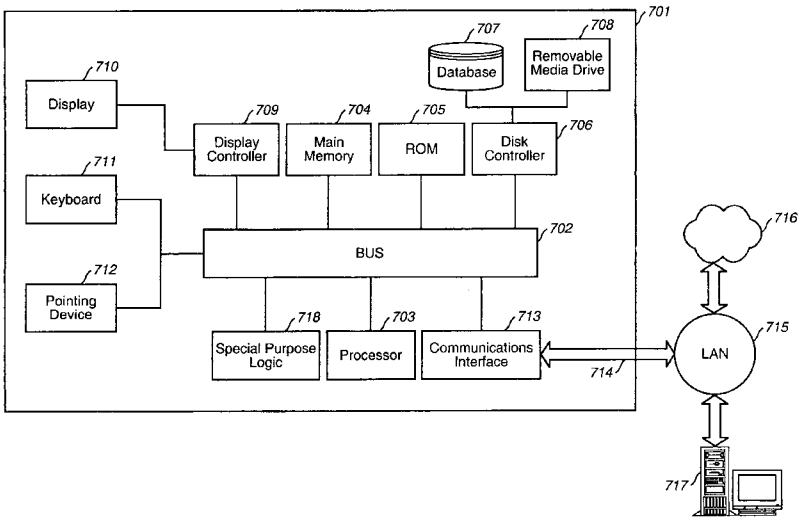
* cited by examiner

Primary Examiner—Cao (Kevin) Nguyen

(57) **ABSTRACT**

A system and method for procuring and servicing telecommunications offerings on-line, including a server. The server including a server program configured to transmit data for generating a customer GUI on a customer computer, the customer GUI including a telecommunications offerings region, including a voice telecommunications offerings sub-region for providing access to voice telecommunications offerings, an Internet telecommunications offerings sub-region for providing access to Internet telecommunications offerings, and a mobile telecommunications offerings sub-region for providing access to mobile telecommunications offerings. The server program further configured to generate a back office GUI on a back office computer, the back office GUI including a search region located in a central portion thereof and including a search for dropdown list, a search criteria sub-region, and reset and search buttons. The back office GUI also including a tab region located in an upper portion thereof and including log off, user home, manage agents, customer home, shop, and cart tabs.

38 Claims, 43 Drawing Sheets



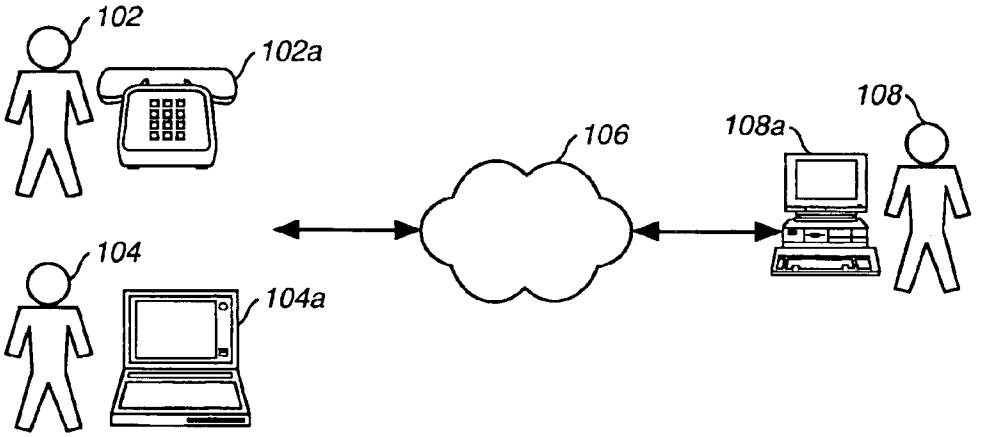


FIG. 1

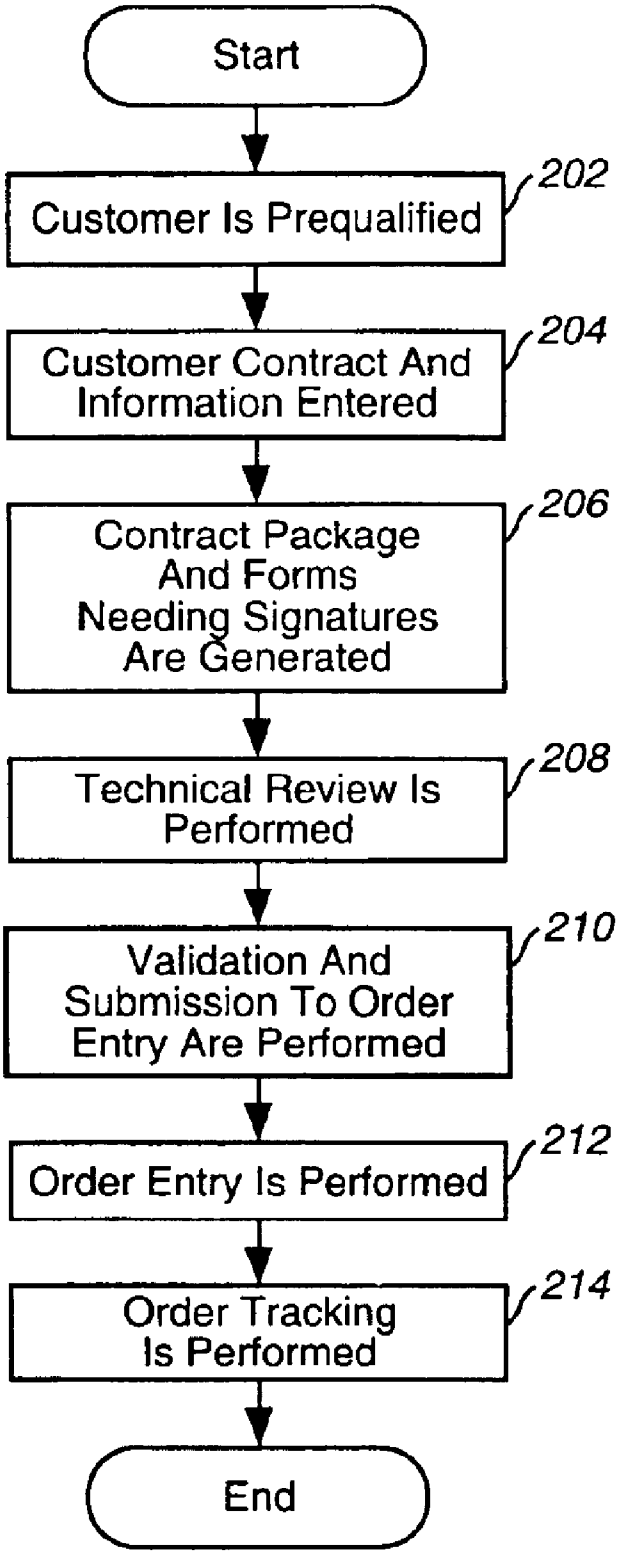

Start
Customer Is Prequalified
202
Customer Contract And Information Entered
204
Contract Package And Forms Needing Signatures Are Generated
206
Technical Review Is Performed
208
Validation And Submission To Order Entry Are Performed
210
Order Entry Is Performed
212
Order Tracking Is Performed
214
End

FIG. 2

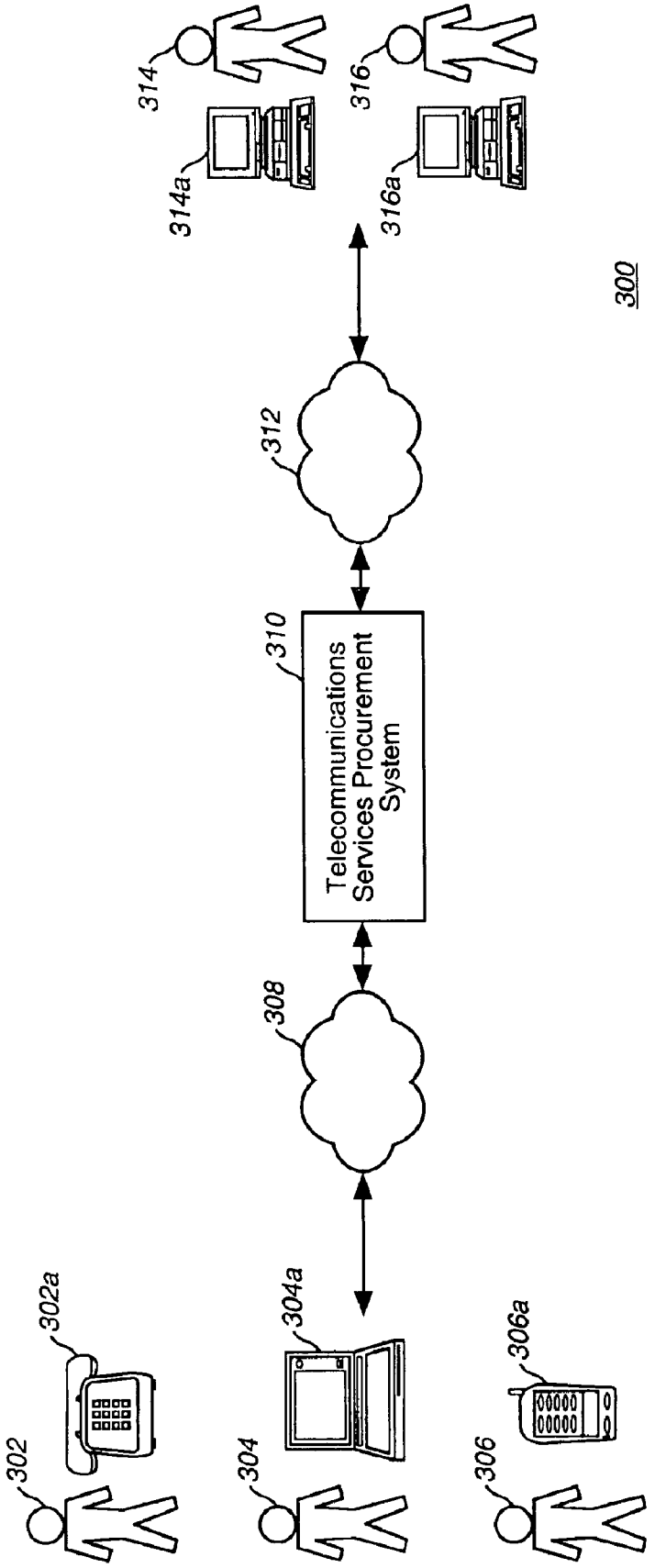

314
316
314a
316a
300
312
310
Telecommunications Services Procurement System
308
302a
304a
306a
302
304
306

FIG. 3

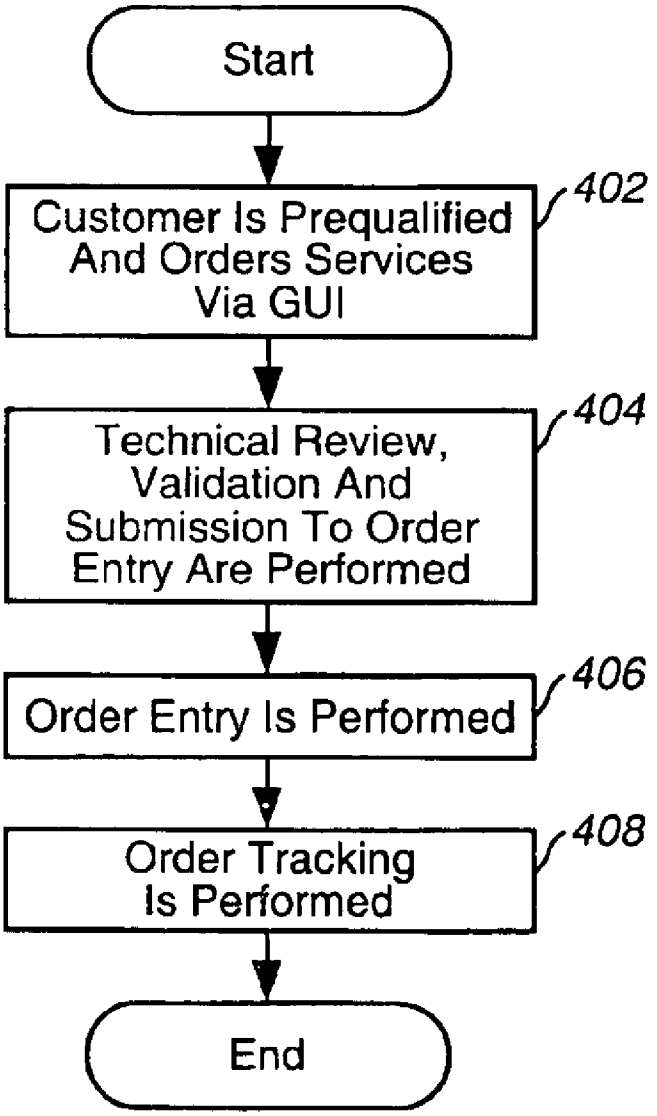

Start
Customer Is Prequalified And Orders Services Via GUI
402
Technical Review, Validation And Submission To Order Entry Are Performed
404
Order Entry Is Performed
406
Order Tracking Is Performed
408
End

FIG. 4

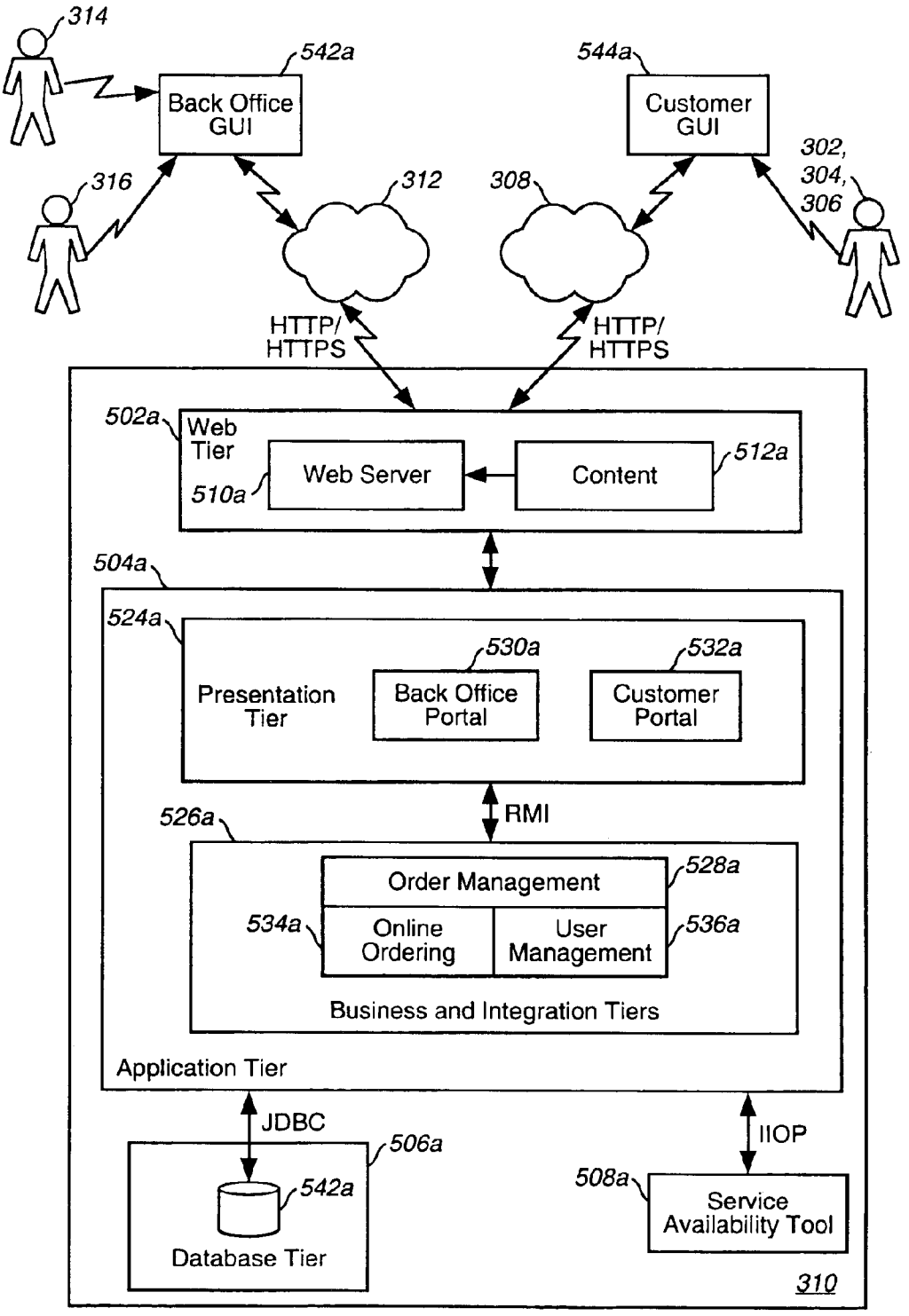

314
542a
Back Office GUI
544a
Customer GUI
316
312
308
302, 304, 306
HTTP/ HTTPS
HTTP/ HTTPS
502a
Web Tier
510a
Web Server
Content
512a
504a
524a
Presentation Tier
530a
Back Office Portal
532a
Customer Portal
RMI
526a
Order Management
528a
534a
Online Ordering
User Management
536a
Business and Integration Tiers
Application Tier
JDBC
506a
542a
Database Tier
IIOP
508a
Service Availability Tool
310

FIG. 5A

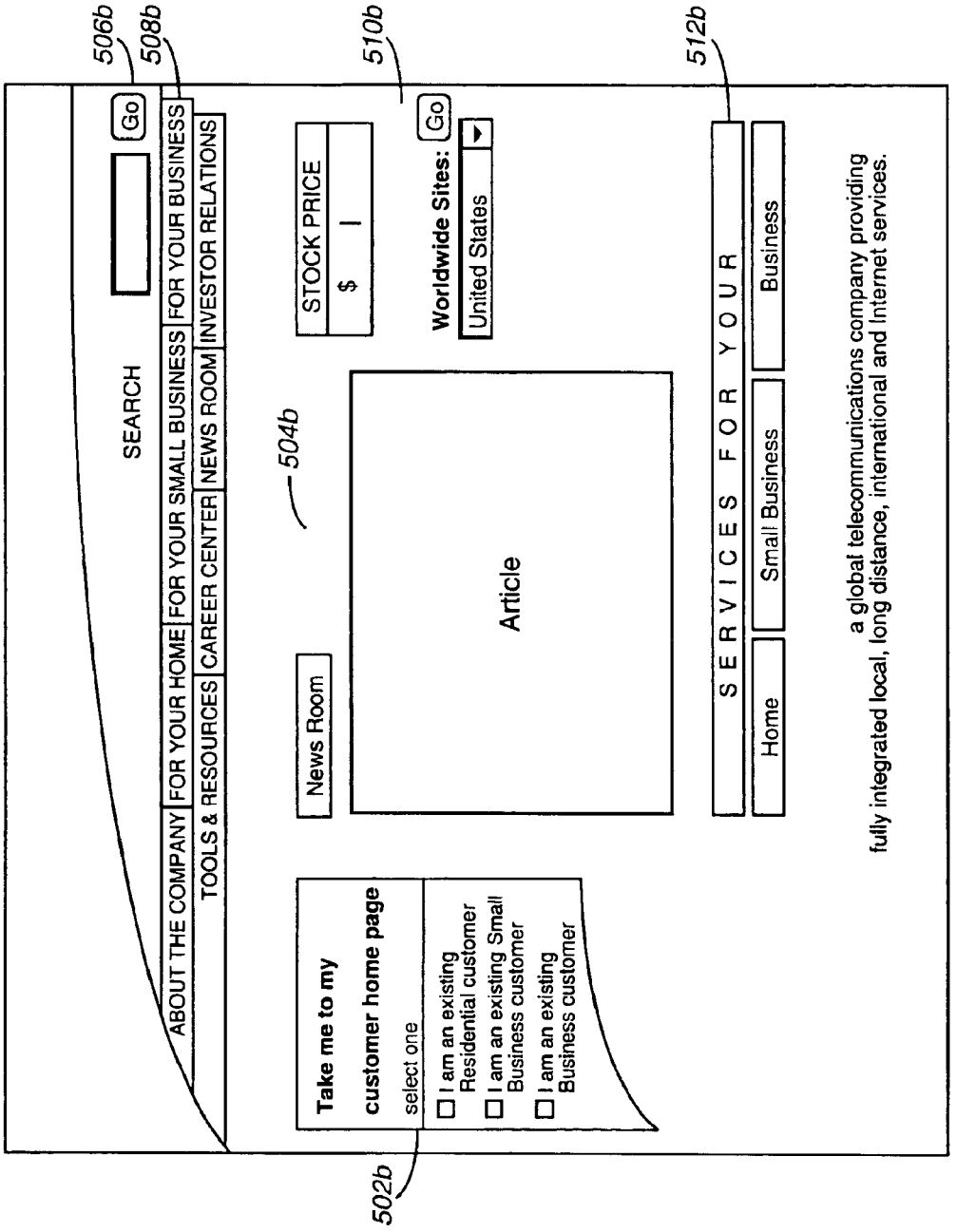

506b
508b
510b
512b
504b
502b
SEARCH
Go
ABOUT THE COMPANY
FOR YOUR HOME
FOR YOUR SMALL BUSINESS
FOR YOUR BUSINESS
TOOLS & RESOURCES
CAREER CENTER
NEWS ROOM
INVESTOR RELATIONS
STOCK PRICE
$
Worldwide Sites:
Go
United States
News Room
Article
Take me to my
customer home page
select one
I am an existing Residential customer
I am an existing Small Business customer
I am an existing Business customer
SERVICES FOR YOUR
Home
Small Business
Business
a global telecommunications company providing
fully integrated local, long distance, international and Internet services.

FIG. 5B

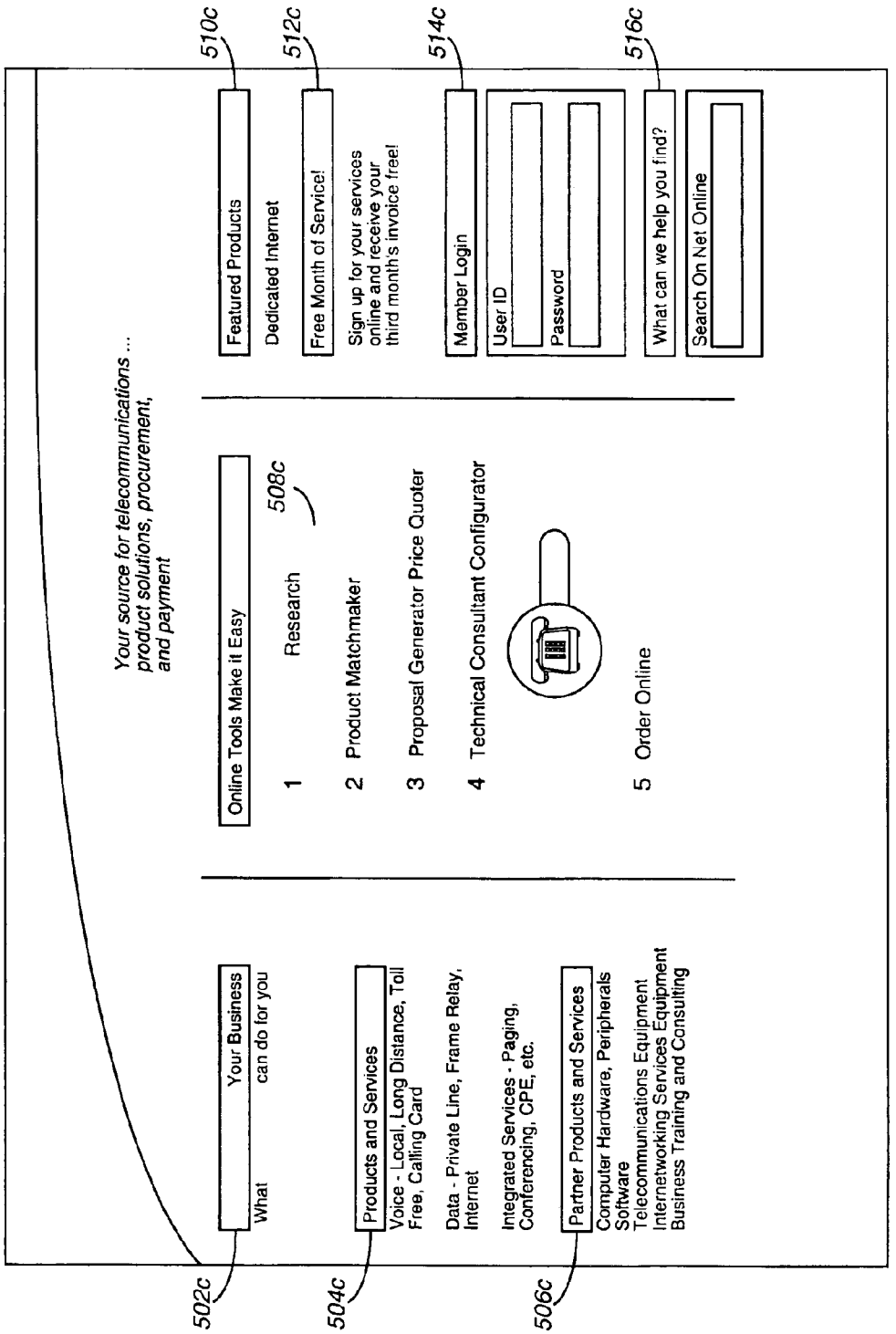

Your source for telecommunications ... product solutions, procurement, and payment
Your Business
What can do for you
Products and Services
Voice - Local, Long Distance, Toll Free, Calling Card
Data - Private Line, Frame Relay, Internet
Integrated Services - Paging, Conferencing, CPE, etc.
Partner Products and Services
Computer Hardware, Peripherals
Software
Telecommunications Equipment
Internetworking Services Equipment
Business Training and Consulting
Online Tools Make it Easy
1 Research
2 Product Matchmaker
3 Proposal Generator Price Quoter
4 Technical Consultant Configurator
5 Order Online
Featured Products
Dedicated Internet
Free Month of Service!
Sign up for your services online and receive your third month's invoice free!
Member Login
User ID
Password
What can we help you find?
Search On Net Online
502c
504c
506c
508c
510c
512c
514c
516c

FIG. 5C

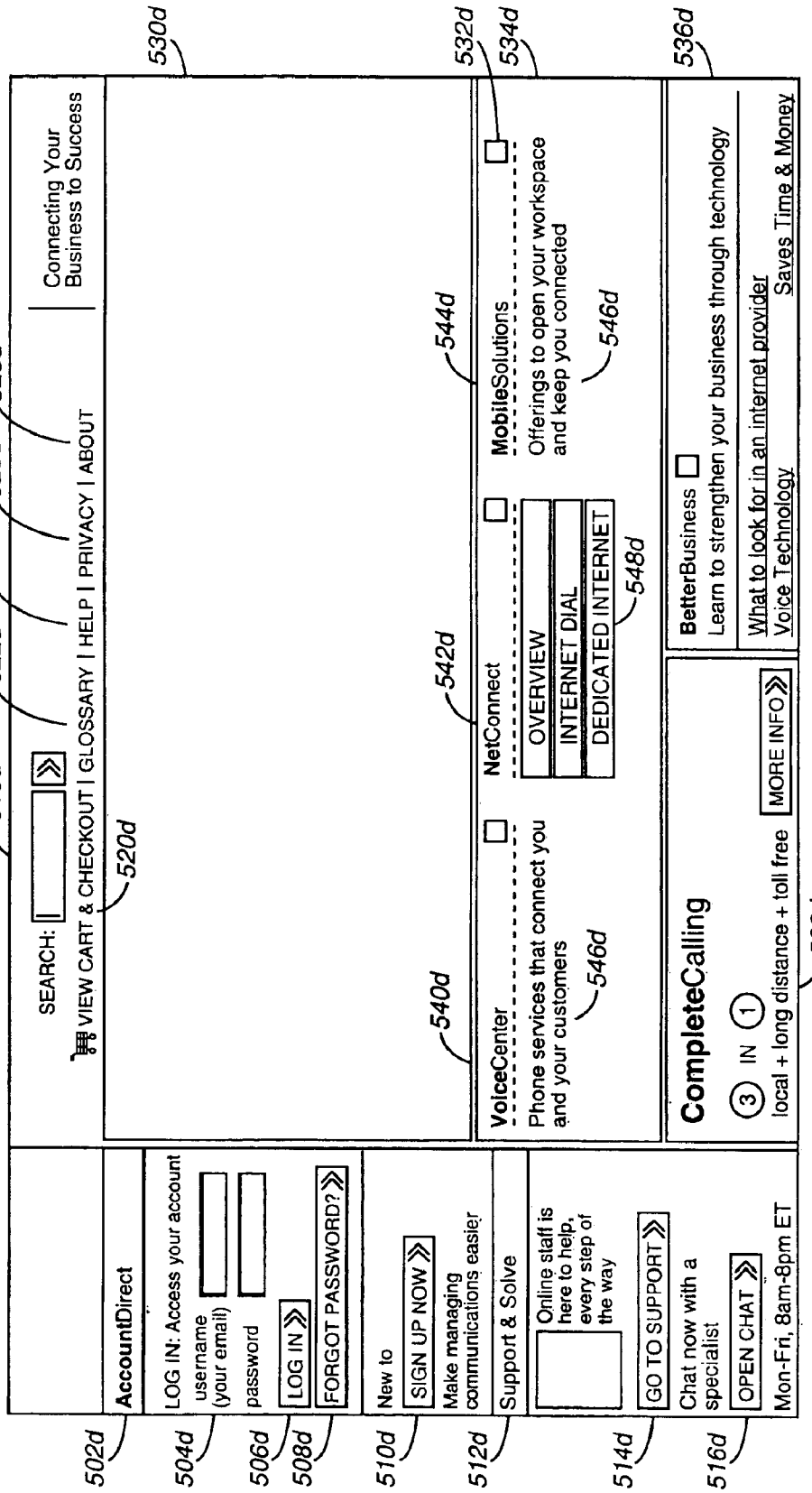

518d
522d
524d
526d
528d
530d
SEARCH:
VIEW CART & CHECKOUT | GLOSSARY | HELP | PRIVACY | ABOUT
Connecting Your Business to Success
520d
502d
AccountDirect
504d
LOG IN: Access your account
username (your email)
password
506d
LOG IN
508d
FORGOT PASSWORD?
510d
New to
SIGN UP NOW
Make managing communications easier
512d
Support & Solve
514d
Online staff is here to help, every step of the way
GO TO SUPPORT
516d
Chat now with a specialist
OPEN CHAT
Mon-Fri, 8am-8pm ET
538d
540d
542d
NetConnect
Phone services that connect you and your customers
546d
544d
532d
VoiceCenter
534d
MobileSolutions
Offerings to open your workspace and keep you connected
546d
OVERVIEW
INTERNET DIAL
DEDICATED INTERNET
548d
CompleteCalling
3 IN 1
local + long distance + toll free
MORE INFO
536d
BetterBusiness
Learn to strengthen your business through technology
What to look for in an internet provider
Voice Technology
Saves Time & Money

FIG. 5D

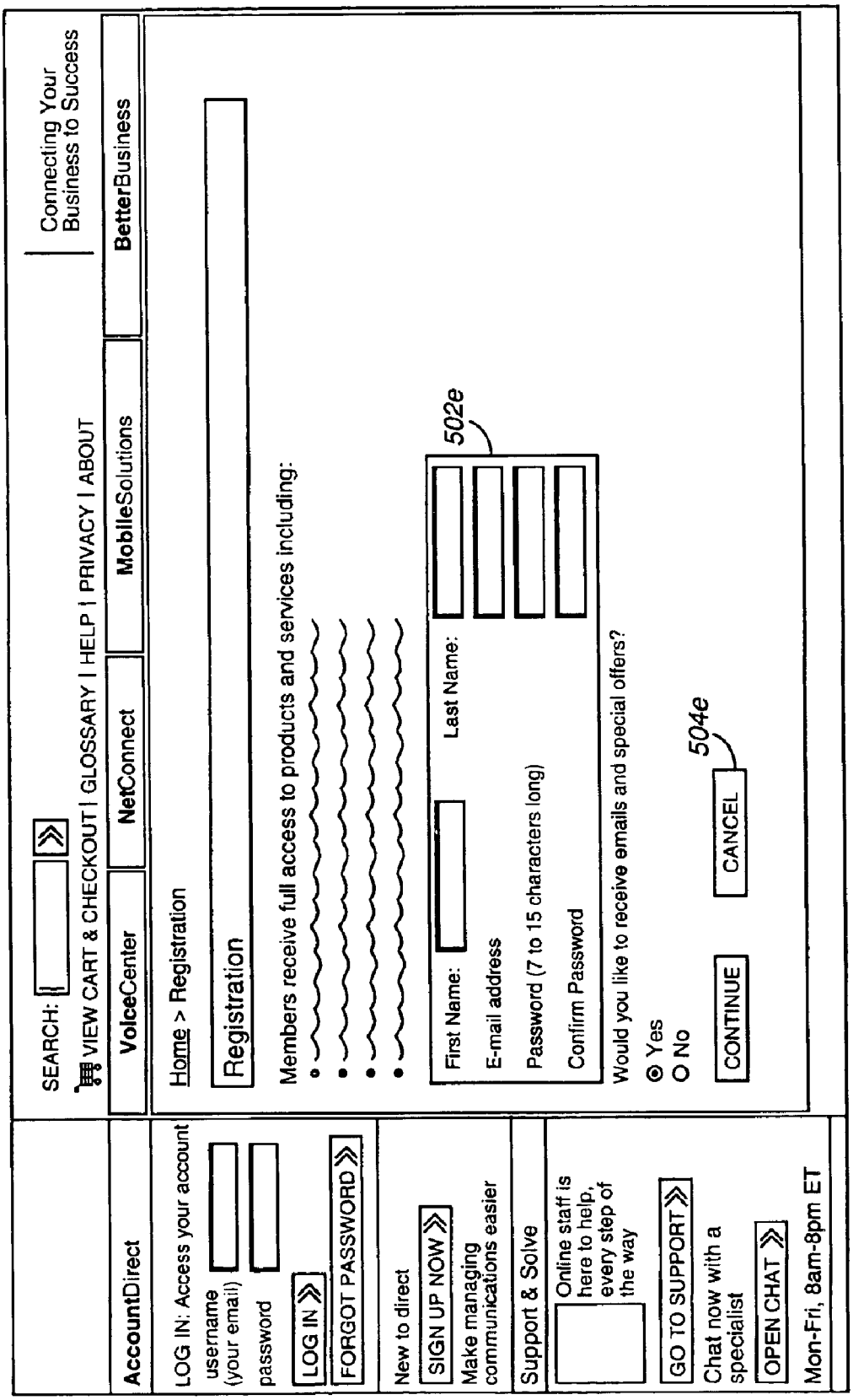

SEARCH:
VIEW CART & CHECKOUT | GLOSSARY | HELP | PRIVACY | ABOUT
Connecting Your Business to Success
AccountDirect
VoiceCenter
NetConnect
MobileSolutions
BetterBusiness
LOG IN: Access your account
username (your email)
password
LOG IN
FORGOT PASSWORD
New to direct
SIGN UP NOW
Make managing communications easier
Support & Solve
Online staff is here to help, every step of the way
GO TO SUPPORT
Chat now with a specialist
OPEN CHAT
Mon-Fri, 8am-8pm ET
Home > Registration
Registration
Members receive full access to products and services including:
First Name:
Last Name:
E-mail address
Password (7 to 15 characters long)
Confirm Password
502e
Would you like to receive emails and special offers?
Yes
No
CONTINUE
CANCEL
504e

FIG. 5E

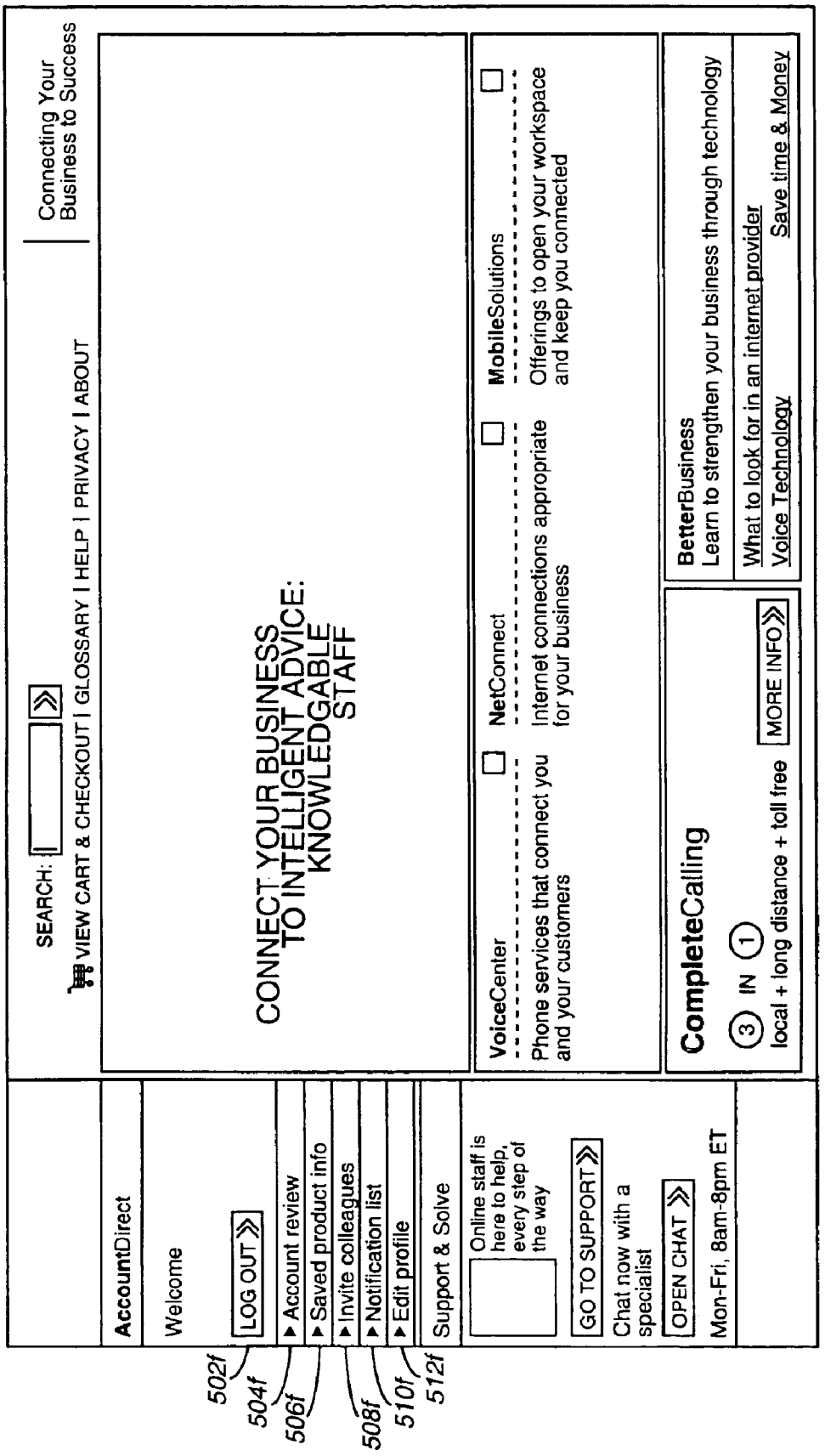
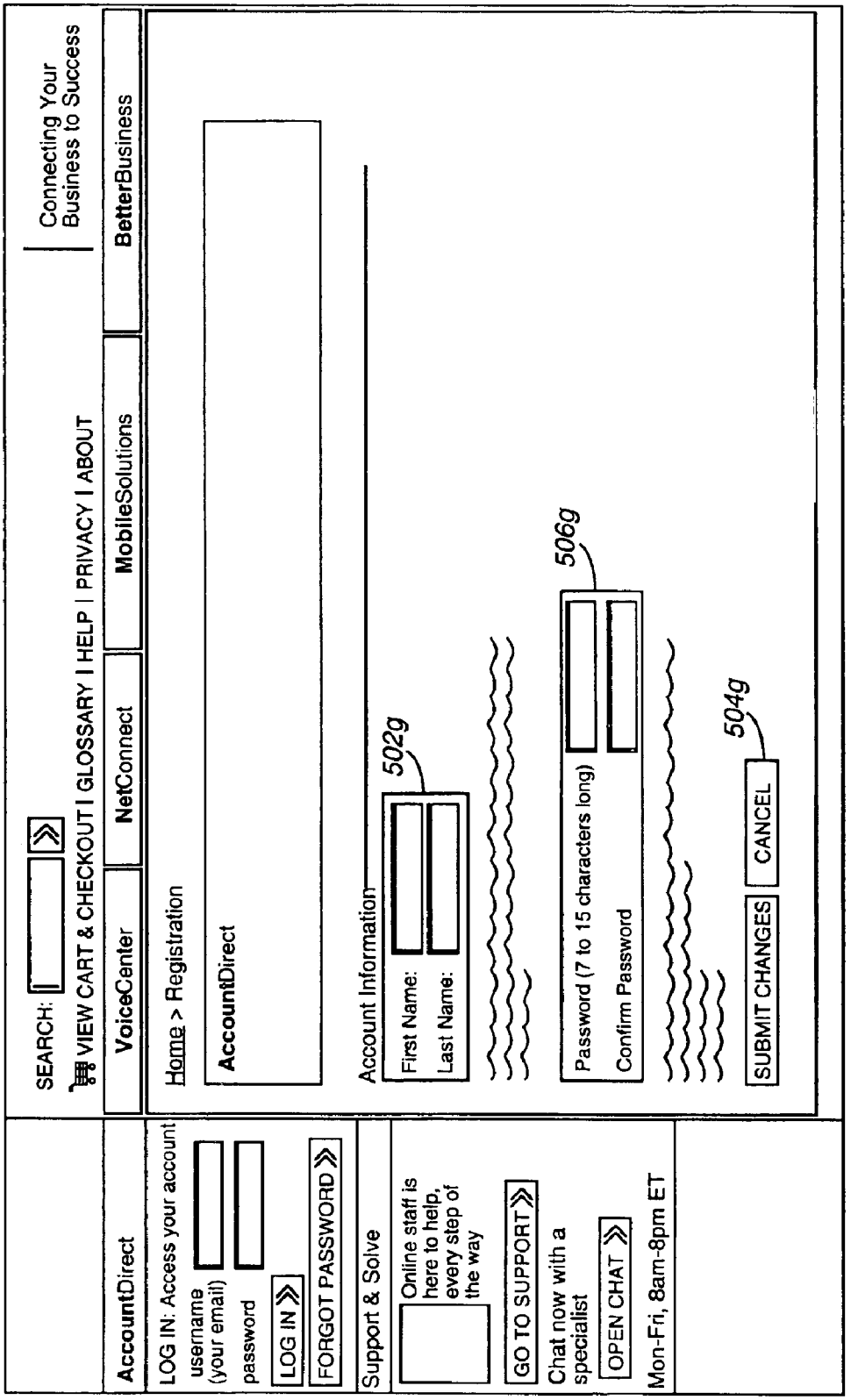

SEARCH:
VIEW CART & CHECKOUT | GLOSSARY | HELP | PRIVACY | ABOUT
Connecting Your Business to Success
AccountDirect
Welcome
LOG OUT
▸ Account review
▸ Saved product info
▸ Invite colleagues
▸ Notification list
▸ Edit profile
Support & Solve
Online staff is here to help, every step of the way
GO TO SUPPORT
Chat now with a specialist
OPEN CHAT
Mon-Fri, 8am-8pm ET
CONNECT YOUR BUSINESS TO INTELLIGENT ADVICE: KNOWLEDGABLE STAFF
VoiceCenter
Phone services that connect you and your customers
NetConnect
Internet connections appropriate for your business
MobileSolutions
Offerings to open your workspace and keep you connected
CompleteCalling
3 IN 1
local + long distance + toll free
MORE INFO
BetterBusiness
Learn to strengthen your business through technology
What to look for in an internet provider
Voice Technology
Save time & Money
502f
504f
506f
508f
510f
512f

FIG. 5F


SEARCH:
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Connecting Your Business to Success
AccountDirect
VoiceCenter
NetConnect
MobileSolutions
BetterBusiness
LOG IN: Access your account
username (your email)
password
LOG IN
FORGOT PASSWORD
Support & Solve
Online staff is here to help, every step of the way
GO TO SUPPORT
Chat now with a specialist
OPEN CHAT
Mon-Fri, 8am-8pm ET
Home > Registration
AccountDirect
Account Information
First Name:
Last Name:
502g
Password (7 to 15 characters long)
Confirm Password
506g
SUBMIT CHANGES
CANCEL
504g

FIG. 5G

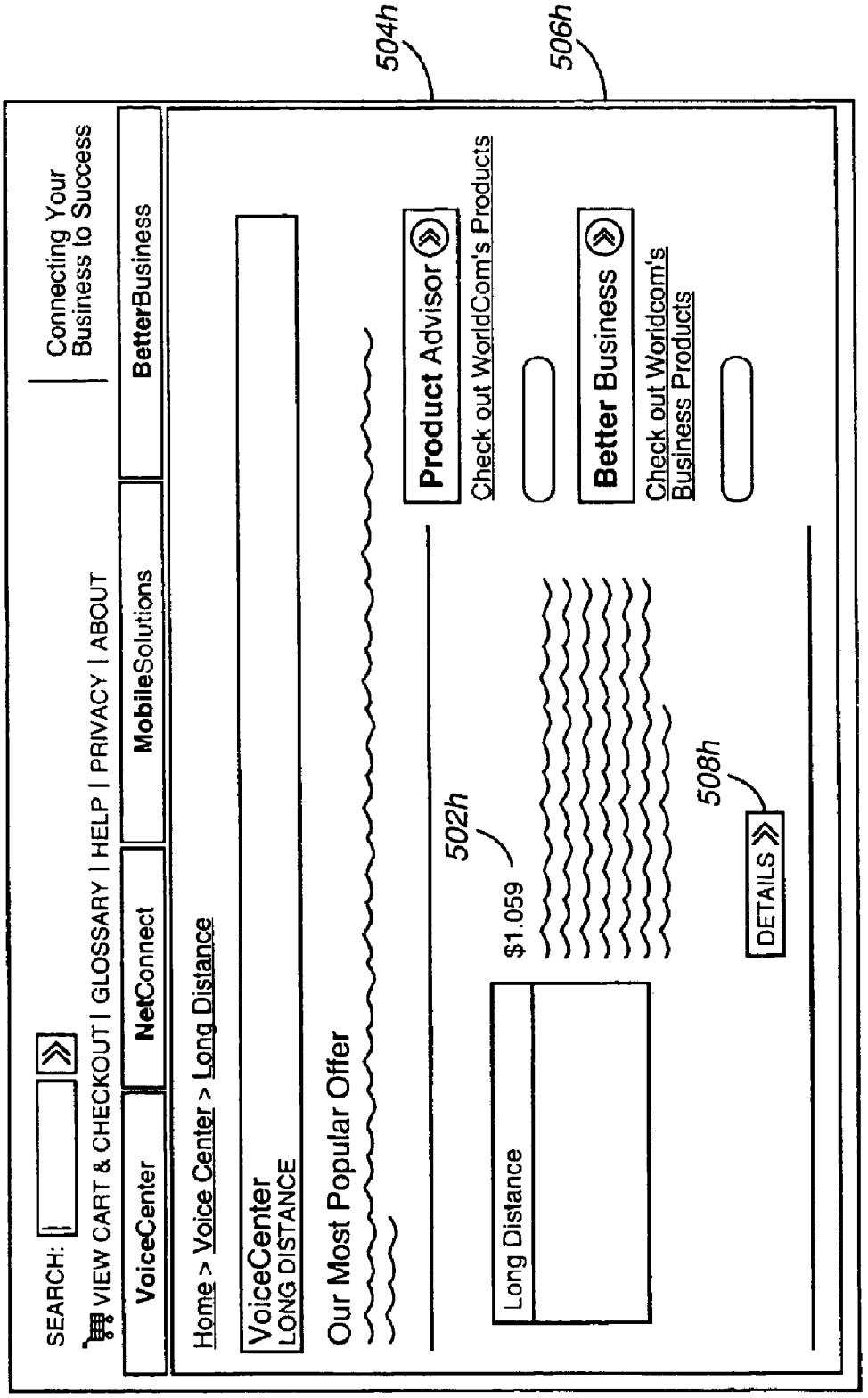

SEARCH:
VIEW CART & CHECKOUT | GLOSSARY | HELP | PRIVACY | ABOUT
Connecting Your Business to Success
VoiceCenter
NetConnect
MobileSolutions
BetterBusiness
Home > Voice Center > Long Distance
VoiceCenter
LONG DISTANCE
Our Most Popular Offer
504h
506h
Product Advisor
Check out WorldCom's Products
Better Business
Check out Worldcom's Business Products
502h
$1.059
Long Distance
508h
DETAILS

FIG. 5H

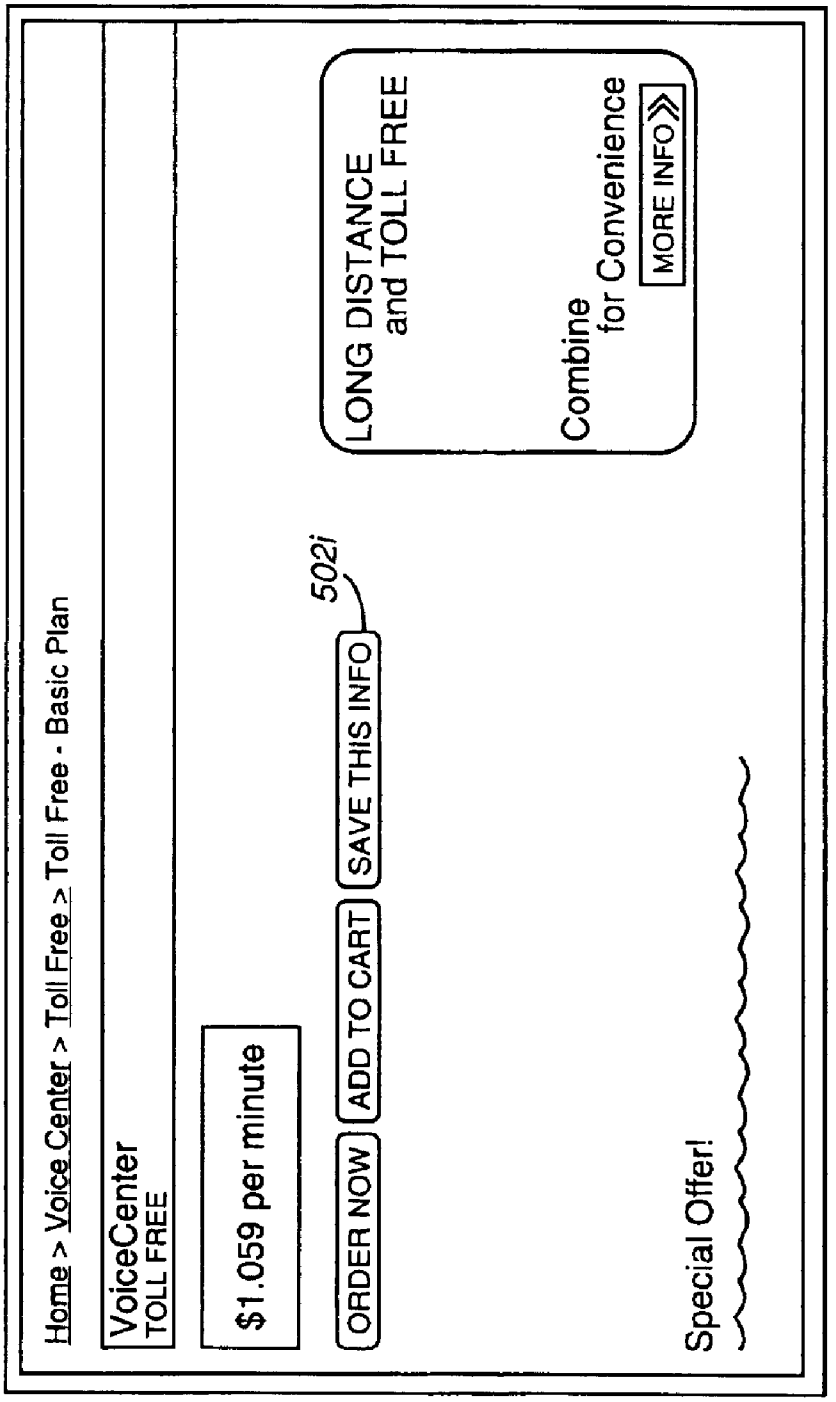
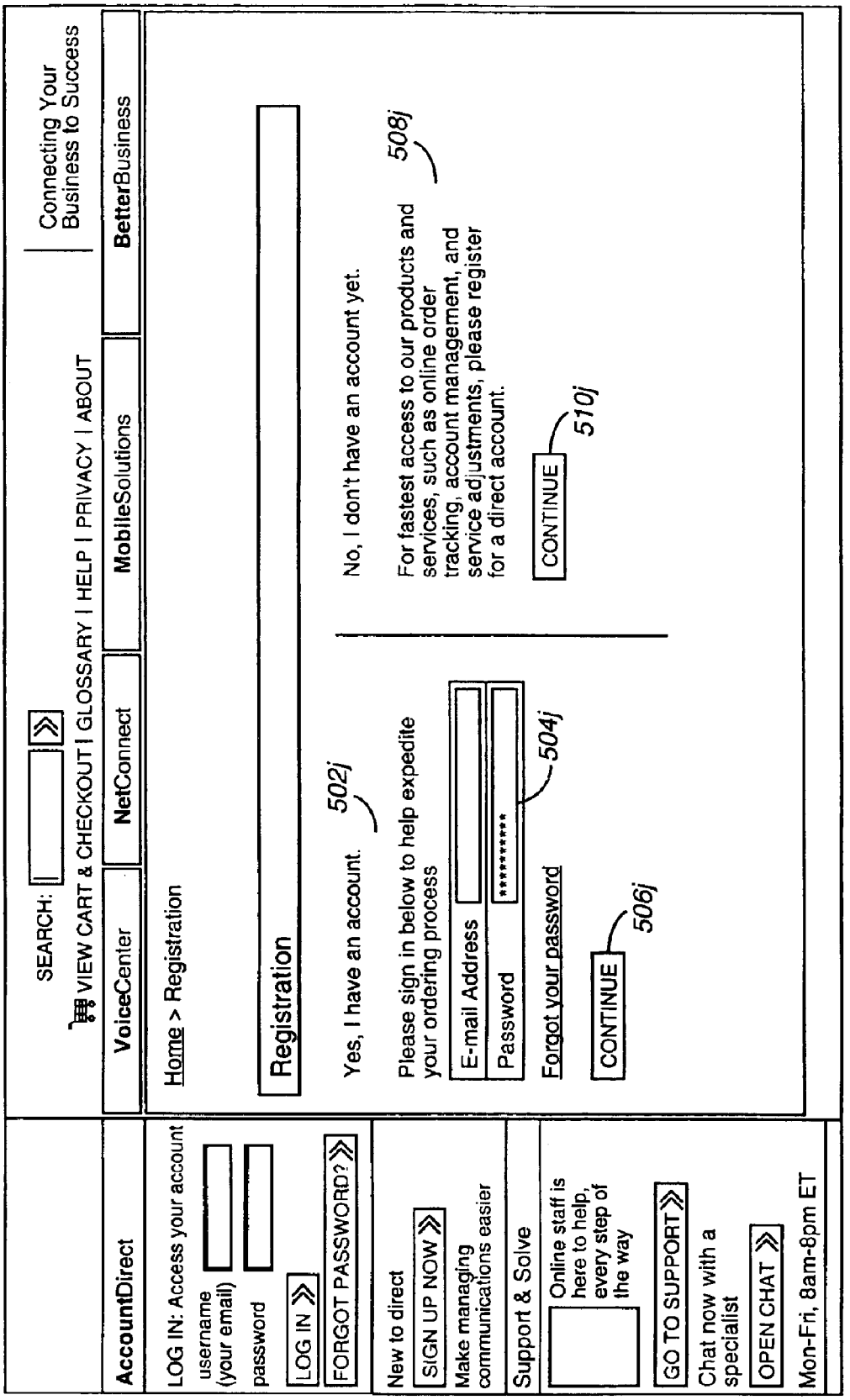

Home > Voice Center > Toll Free > Toll Free - Basic Plan
VoiceCenter
TOLL FREE
$1.059 per minute
ORDER NOW
ADD TO CART
SAVE THIS INFO
502i
LONG DISTANCE
and TOLL FREE
Combine
for Convenience
MORE INFO
Special Offer!

FIG. 5I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Connecting Your Business to Success
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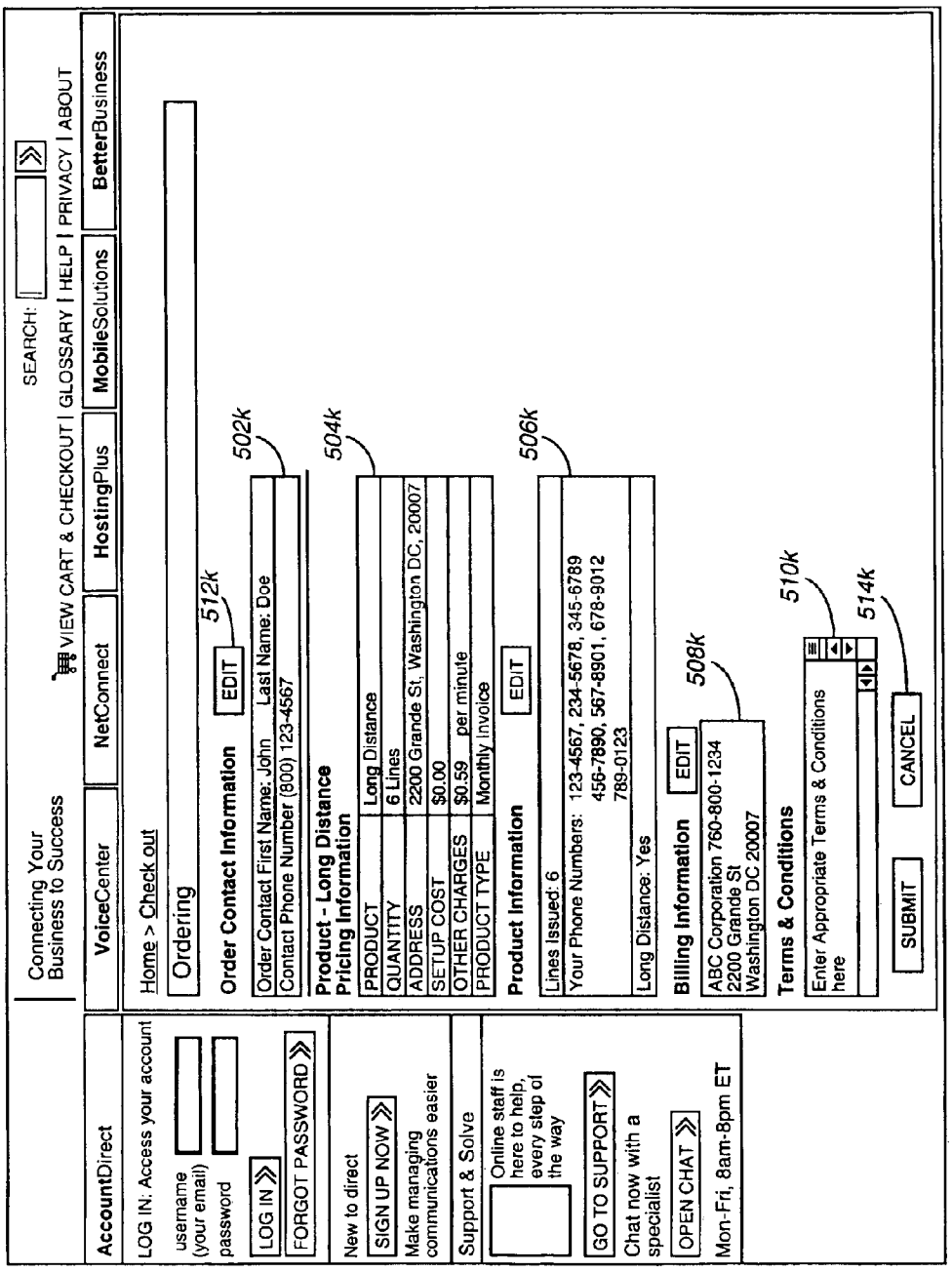
VoiceCenter
NetConnect
MobileSolutions
BetterBusiness
LOG IN: Access your account
username (your email)
password
LOG IN
FORGOT PASSWORD?
New to direct
SIGN UP NOW
Make managing communications easier
Support & Solve
Online staff is here to help, every step of the way
GO TO SUPPORT
Chat now with a specialist
OPEN CHAT
Mon-Fri, 8am-8pm ET
Home > Registration
Registration
Yes, I have an account.
502j
Please sign in below to help expedite your ordering process
E-mail Address
Password
****
504j
Forgot your password
CONTINUE
506j
No, I don't have an account yet.
508j
For fastest access to our products and services, such as online order tracking, account management, and service adjustments, please register for a direct account.
CONTINUE
510j

FIG. 5J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NetConnect
HostingPlus
MobileSolutions
BetterBusiness
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username (your email)
password
LOG IN
FORGOT PASSWORD
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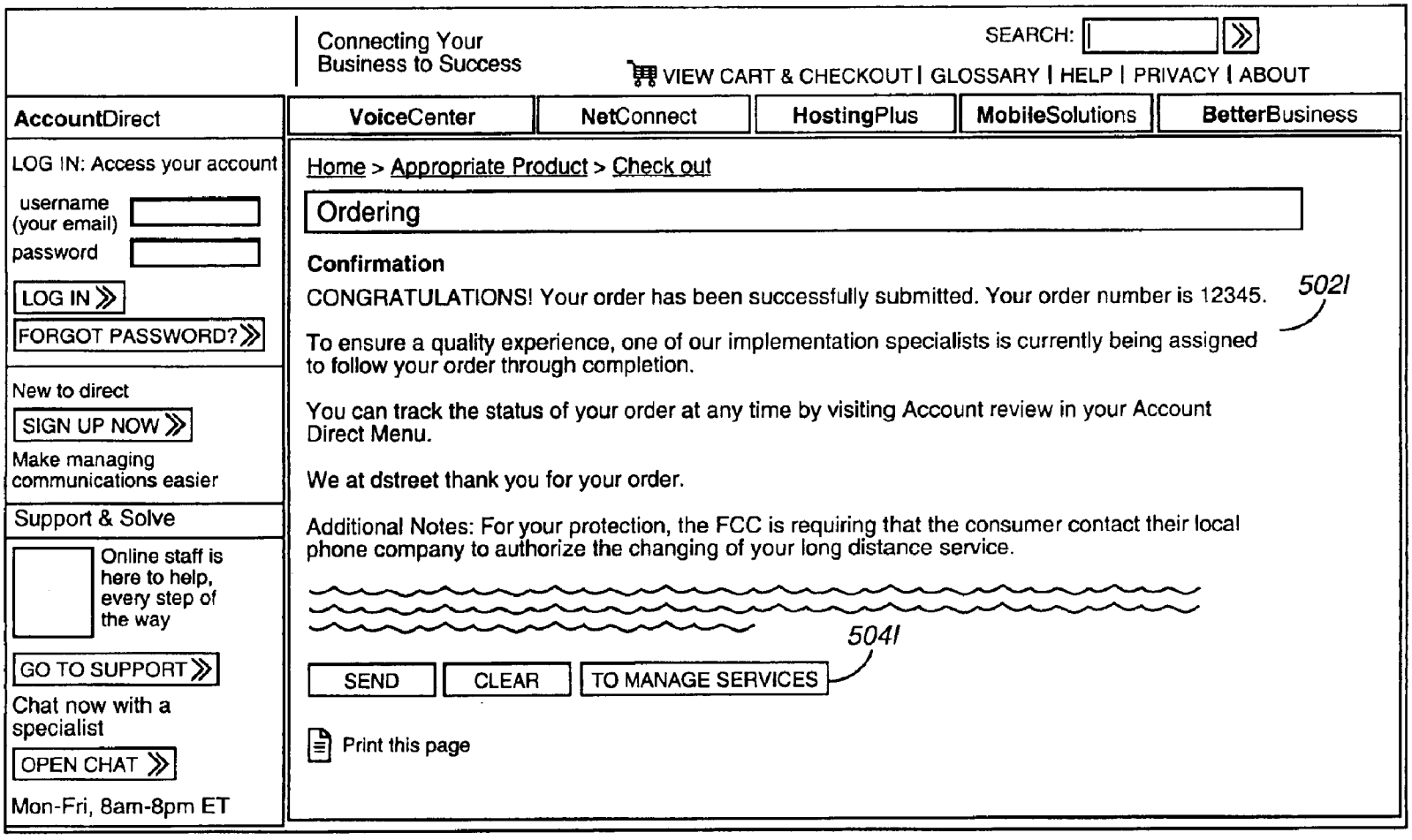
Online staff is here to help, every step of the way
GO TO SUPPORT
Chat now with a specialist
OPEN CHAT
Mon-Fri, 8am-8pm ET
Home > Check out
Ordering
Order Contact Information
EDIT
512k
Order Contact First Name: John Last Name: Doe
Contact Phone Number (800) 123-4567
502k
Product - Long Distance
Pricing Information
504k
PRODUCT | Long Distance
QUANTITY | 6 Lines
ADDRESS | 2200 Grande St, Washington DC, 20007
SETUP COST | $0.00
OTHER CHARGES | $0.59 per minute
PRODUCT TYPE | Monthly Invoice
Product Information
EDIT
506k
Lines Issued: 6
Your Phone Numbers: 123-4567, 234-5678, 345-6789
456-7890, 567-8901, 678-9012
789-0123
Long Distance: Yes
Billing Information
EDIT
508k
ABC Corporation 760-800-1234
2200 Grande St
Washington DC 20007
Terms & Conditions
510k
Enter Appropriate Terms & Conditions here
514k
SUBMIT
CANCEL

FIG. 5K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NetConnect
HostingPlus
MobileSolutions
BetterBusiness
LOG IN: Access your account
username (your email)
password
LOG IN
FORGOT PASSWORD?
New to direct
SIGN UP NOW
Make managing communications easier
Support & Solve
Online staff is here to help, every step of the way
GO TO SUPPORT
Chat now with a specialist
OPEN CHAT
Mon-Fri, 8am-8pm ET
Home > Appropriate Product > Check out
Ordering
Confirmation
CONGRATULATIONS! Your order has been successfully submitted. Your order number is 12345.
5021
To ensure a quality experience, one of our implementation specialists is currently being assigned to follow your order through completion.
You can track the status of your order at any time by visiting Account review in your Account Direct Menu.
We at dstreet thank you for your order.
Additional Notes: For your protection, the FCC is requiring that the consumer contact their local phone company to authorize the changing of your long distance service.
5041
SEND
CLEAR
TO MANAGE SERVICES
Print this page

FIG. 5L

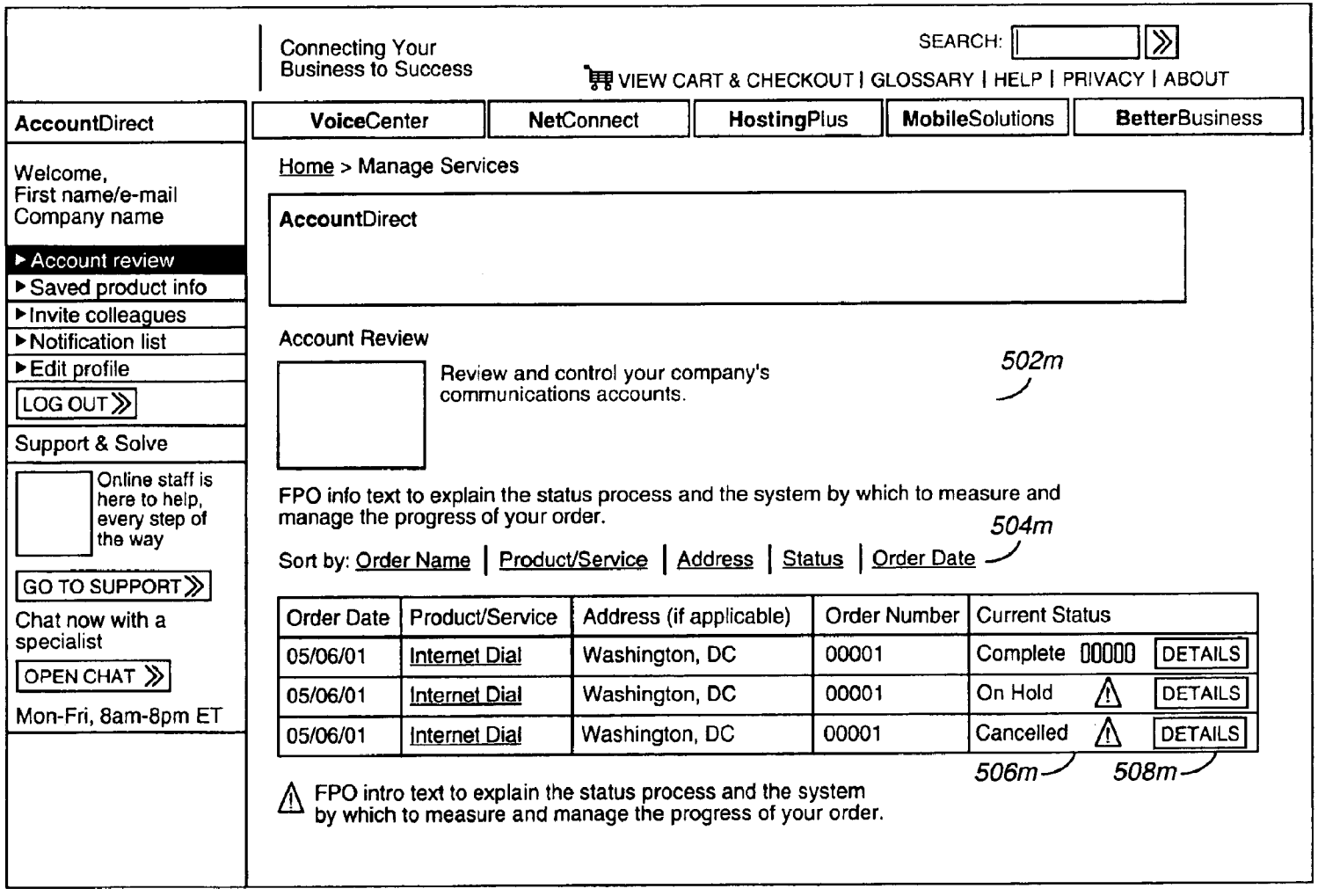
Connecting Your Business to Success
SEARCH:
VIEW CART & CHECKOUT | GLOSSARY | HELP | PRIVACY | ABOUT
AccountDirect
VoiceCenter
NetConnect
HostingPlus
MobileSolutions
BetterBusiness
Welcome, First name/e-mail Company name
▸ Account review
▸ Saved product info
▸ Invite colleagues
▸ Notification list
▸ Edit profile
LOG OUT
Support & Solve
Online staff is here to help, every step of the way
GO TO SUPPORT
Chat now with a specialist
OPEN CHAT
Mon-Fri, 8am-8pm ET
Home > Manage Services
AccountDirect
Account Review
Review and control your company's communications accounts.
502m
FPO info text to explain the status process and the system by which to measure and manage the progress of your order.
504m
Sort by: Order Name | Product/Service | Address | Status | Order Date
Order Date | Product/Service | Address (if applicable) | Order Number | Current Status
05/06/01 | Internet Dial | Washington, DC | 00001 | Complete 00000 DETAILS
05/06/01 | Internet Dial | Washington, DC | 00001 | On Hold DETAILS
05/06/01 | Internet Dial | Washington, DC | 00001 | Cancelled DETAILS
506m
508m
FPO intro text to explain the status process and the system by which to measure and manage the progress of your order.

FIG. 5M

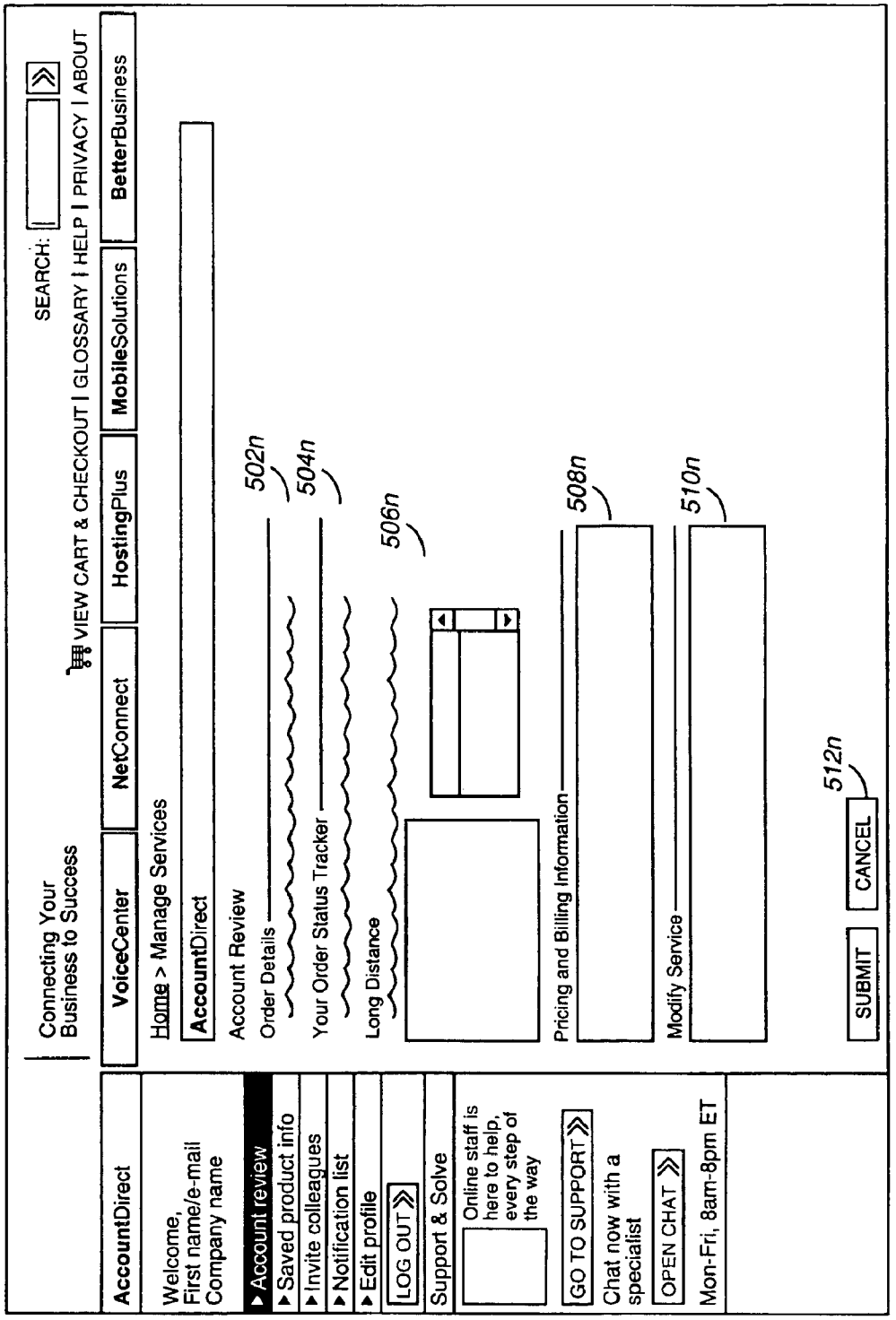
Connecting Your Business to Success
VIEW CART & CHECKOUT | GLOSSARY | HELP | PRIVACY | ABOUT
SEARCH:
AccountDirect
VoiceCenter
NetConnect
HostingPlus
MobileSolutions
BetterBusiness
Welcome, First name/e-mail Company name
Account review
Saved product info
Invite colleagues
Notification list
Edit profile
LOG OUT
Support & Solve
Online staff is here to help, every step of the way
GO TO SUPPORT
Chat now with a specialist
OPEN CHAT
Mon-Fri, 8am-8pm ET
Home > Manage Services
AccountDirect
Account Review
Order Details
Your Order Status Tracker
Long Distance
Pricing and Billing Information
Modify Service
SUBMIT
CANCEL
502n
504n
506n
508n
510n
512n

FIG. 5N

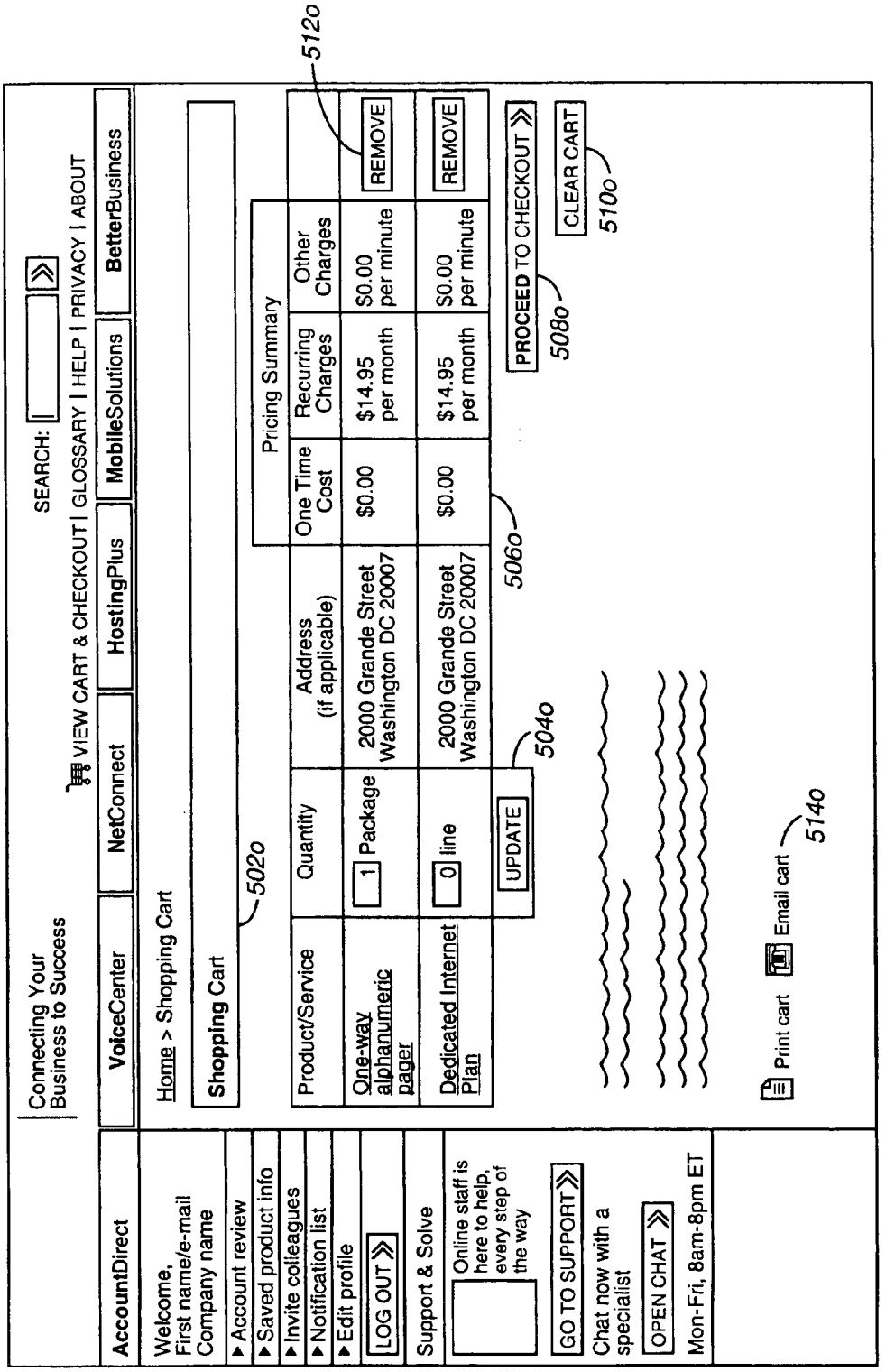
Connecting Your Business to Success
SEARCH:
VIEW CART & CHECKOUT | GLOSSARY | HELP | PRIVACY | ABOUT
AccountDirect
VoiceCenter
NetConnect
HostingPlus
MobileSolutions
BetterBusiness
Welcome, First name/e-mail Company name
Account review
Saved product info
Invite colleagues
Notification list
Edit profile
LOG OUT
Support & Solve
Online staff is here to help, every step of the way
GO TO SUPPORT
Chat now with a specialist
OPEN CHAT
Mon-Fri, 8am-8pm ET
Home > Shopping Cart
Shopping Cart
5020
Pricing Summary
Product/Service
Quantity
Address (if applicable)
One Time Cost
Recurring Charges
Other Charges
One-way alphanumeric pager
1 Package
2000 Grande Street Washington DC 20007
$0.00
$14.95 per month
$0.00 per minute
REMOVE
5120
Dedicated Internet Plan
0 line
2000 Grande Street Washington DC 20007
$0.00
$14.95 per month
$0.00 per minute
REMOVE
5060
UPDATE
5040
PROCEED TO CHECKOUT
5080
CLEAR CART
5100
Print cart
Email cart
5140

FIG. 5O

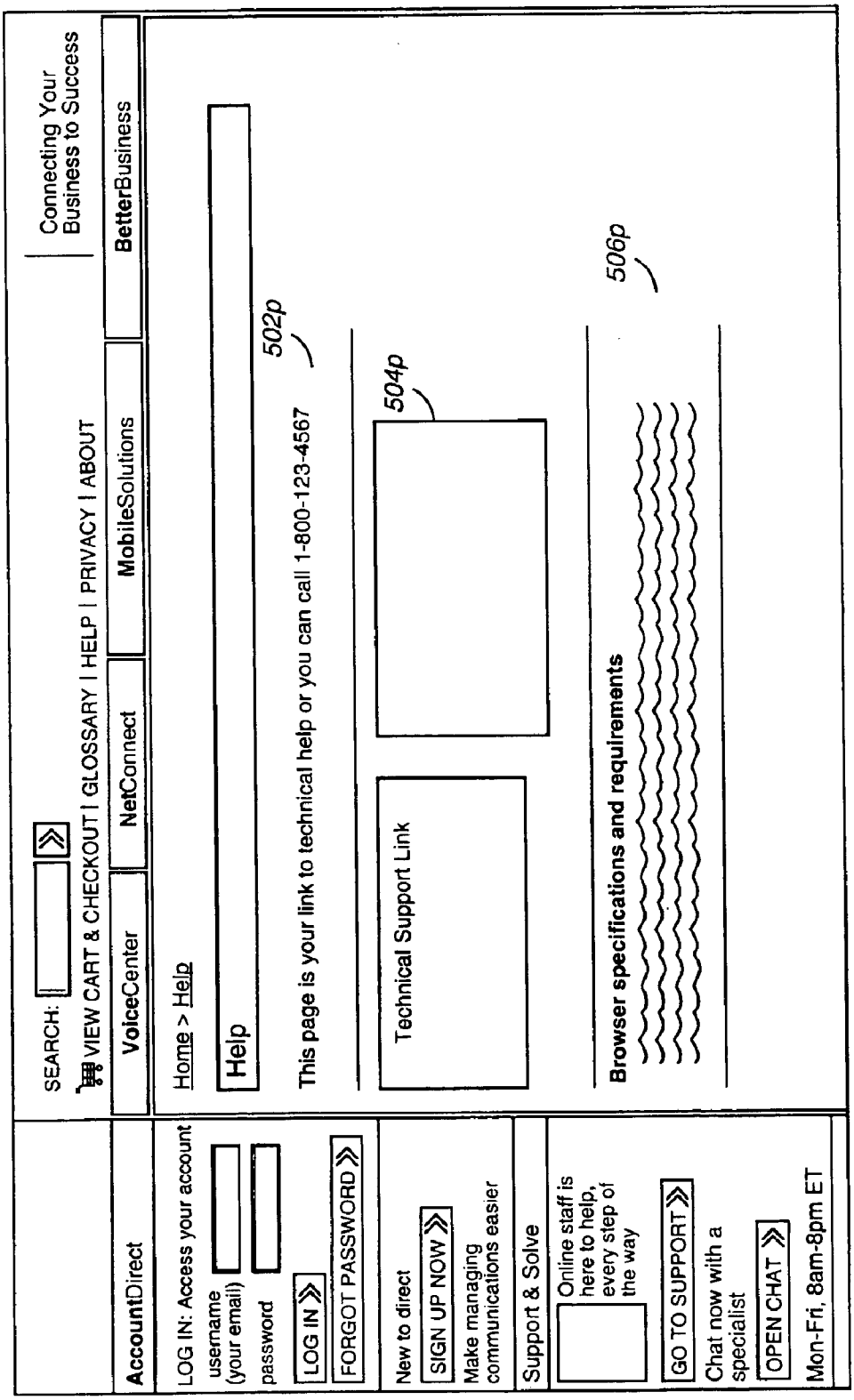
SEARCH:
VIEW CART & CHECKOUT | GLOSSARY | HELP | PRIVACY | ABOUT
Connecting Your Business to Success
VoiceCenter
NetConnect
MobileSolutions
BetterBusiness
AccountDirect
LOG IN: Access your account
username (your email)
password
LOG IN
FORGOT PASSWORD
New to direct
SIGN UP NOW
Make managing communications easier
Support & Solve
Online staff is here to help, every step of the way
GO TO SUPPORT
Chat now with a specialist
OPEN CHAT
Mon-Fri, 8am-8pm ET
Home > Help
Help
This page is your link to technical help or you can call 1-800-123-4567
Technical Support Link
Browser specifications and requirements
502p
504p
506p

FIG. 5P

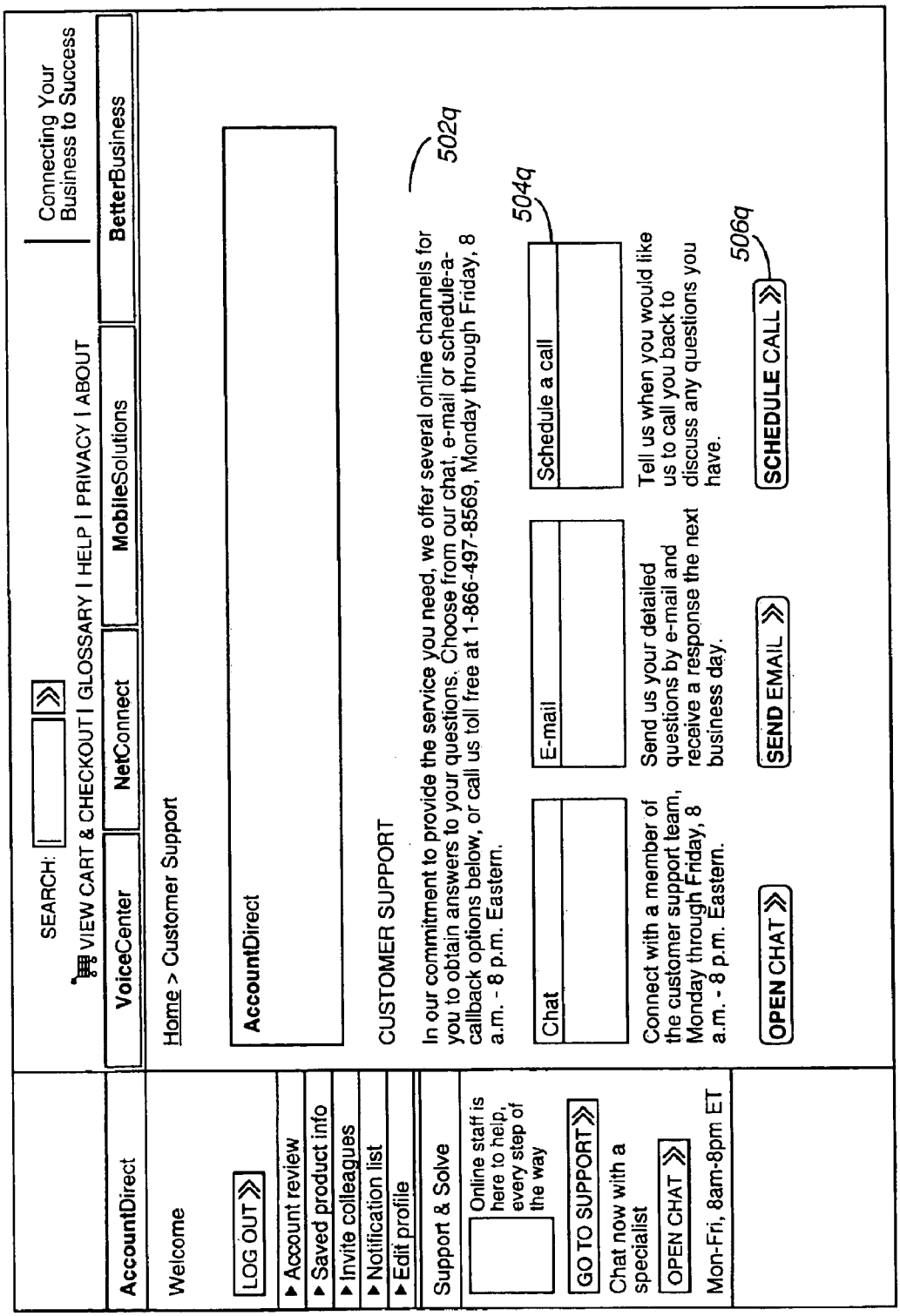
SEARCH:
VIEW CART & CHECKOUT | GLOSSARY | HELP | PRIVACY | ABOUT
Connecting Your Business to Success
AccountDirect
VoiceCenter
NetConnect
MobileSolutions
BetterBusiness
Welcome
LOG OUT
Home > Customer Support
AccountDirect
CUSTOMER SUPPORT
In our commitment to provide the service you need, we offer several online channels for you to obtain answers to your questions. Choose from our chat, e-mail or schedule-a-callback options below, or call us toll free at 1-866-497-8569, Monday through Friday, 8 a.m. - 8 p.m. Eastern.
502q
504q
506q
Chat
E-mail
Schedule a call
Connect with a member of the customer support team, Monday through Friday, 8 a.m. - 8 p.m. Eastern.
Send us your detailed questions by e-mail and receive a response the next business day.
Tell us when you would like us to call you back to discuss any questions you have.
OPEN CHAT
SEND EMAIL
SCHEDULE CALL
▸ Account review
▸ Saved product info
▸ Invite colleagues
▸ Notification list
▸ Edit profile
Support & Solve
Online staff is here to help, every step of the way
GO TO SUPPORT
Chat now with a specialist
OPEN CHAT
Mon-Fri, 8am-8pm ET

FIG. 5Q

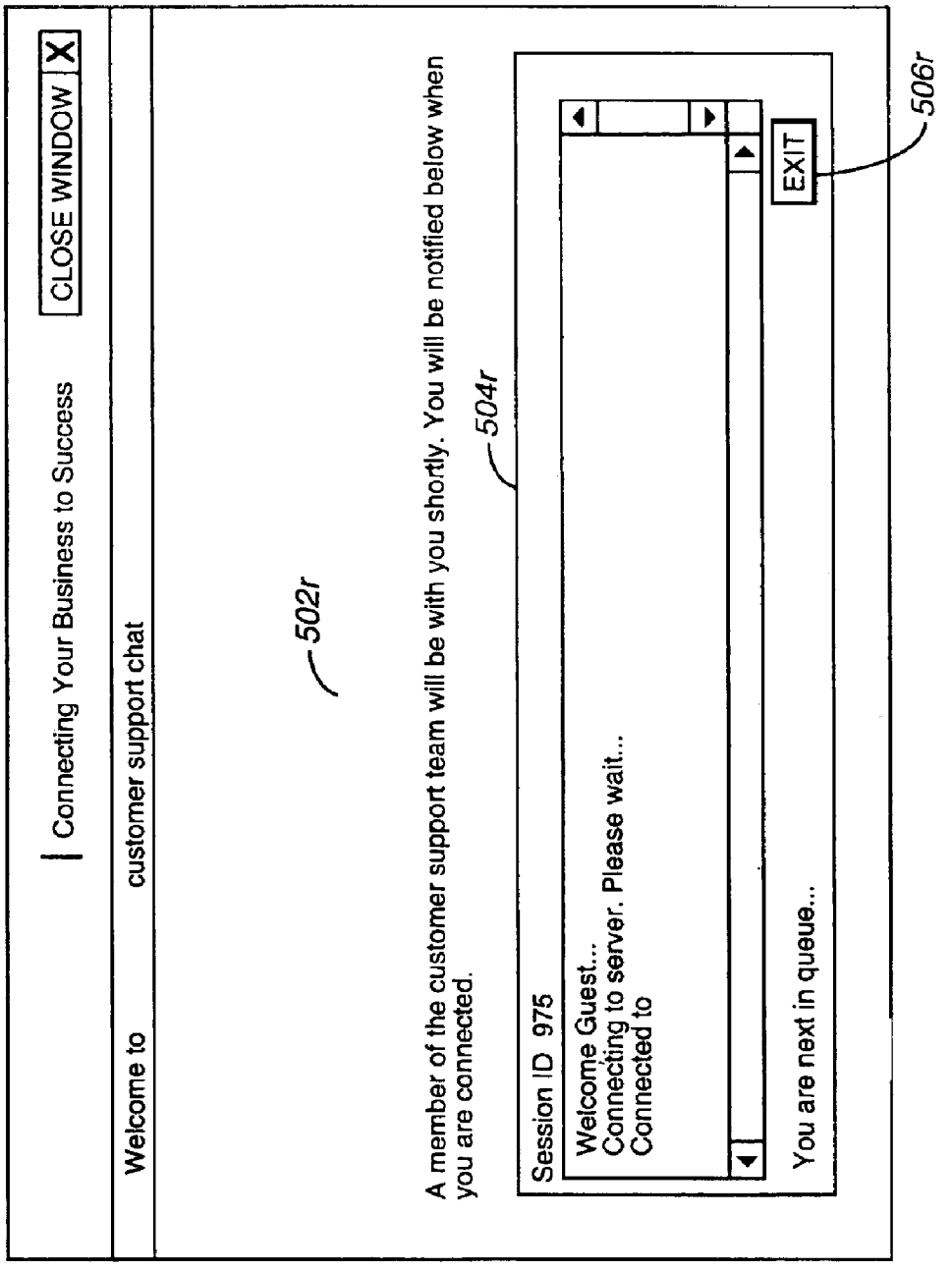
Connecting Your Business to Success
CLOSE WINDOW
Welcome to customer support chat
502r
A member of the customer support team will be with you shortly. You will be notified below when you are connected.
504r
Session ID 975
Welcome Guest...
Connecting to server. Please wait...
Connected to
EXIT
506r
You are next in queue...

FIG. 5R

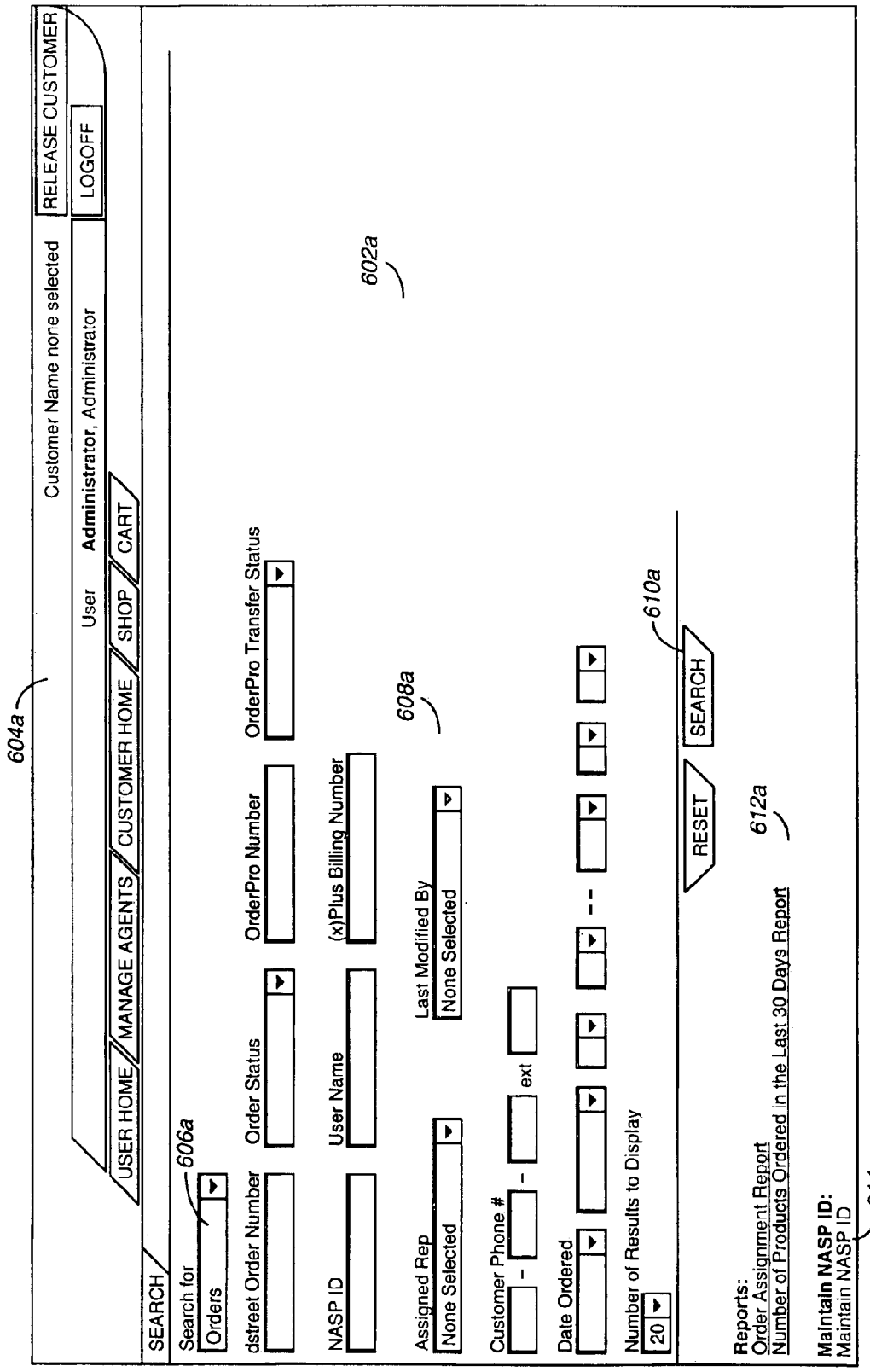
604a
Customer Name none selected
RELEASE CUSTOMER
User Administrator, Administrator
LOGOFF
USER HOME
MANAGE AGENTS
CUSTOMER HOME
SHOP
CART
SEARCH
Search for
Orders
606a
dstreet Order Number
Order Status
OrderPro Number
OrderPro Transfer Status
NASP ID
User Name
(x)Plus Billing Number
602a
Assigned Rep
None Selected
Last Modified By
None Selected
608a
Customer Phone #
ext
Date Ordered
Number of Results to Display
20
RESET
SEARCH
610a
Reports:
Order Assignment Report
Number of Products Ordered in the Last 30 Days Report
612a
Maintain NASP ID:
Maintain NASP ID
614a

FIG. 6A

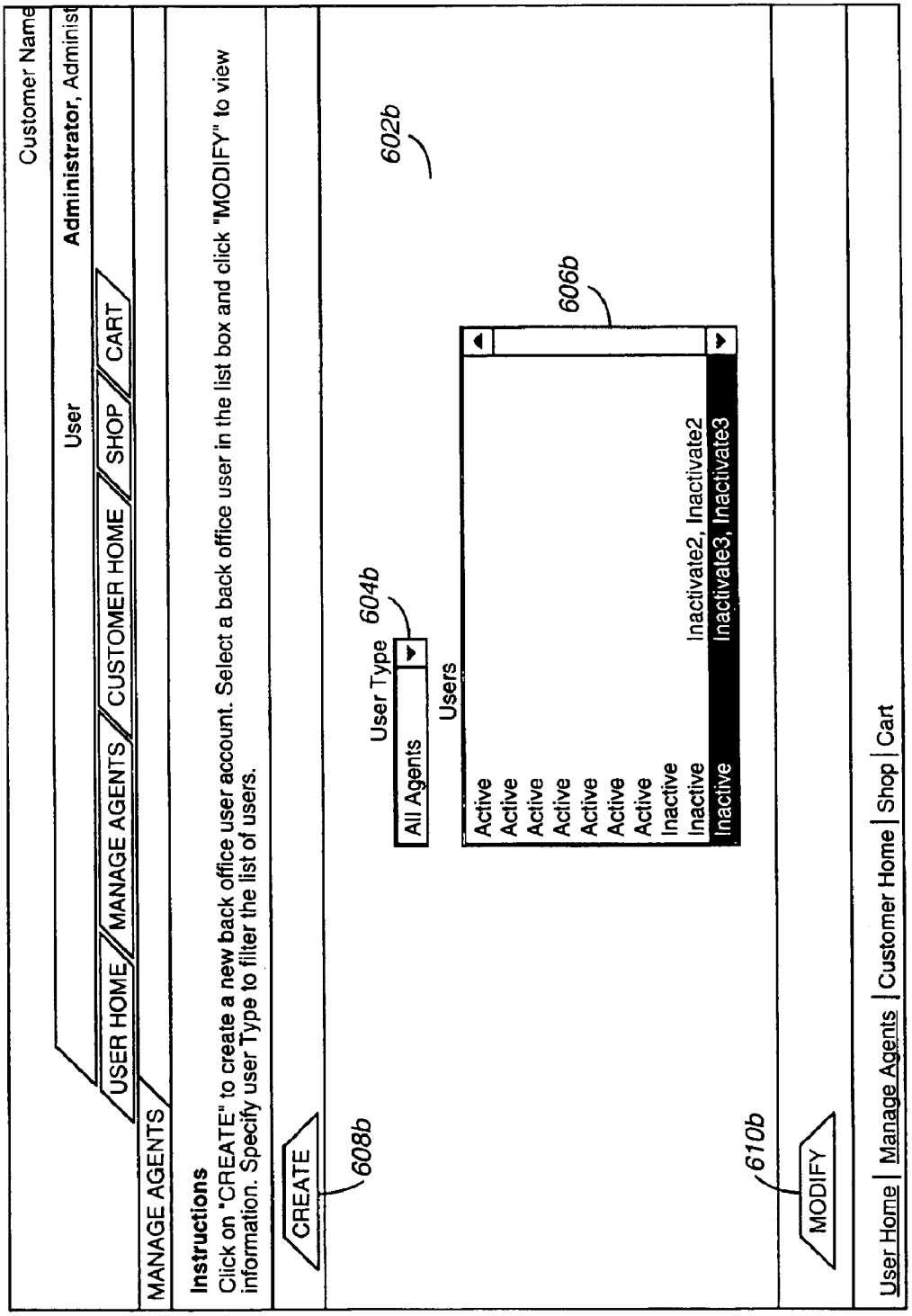
Customer Name
User Administrator, Administ
USER HOME
MANAGE AGENTS
CUSTOMER HOME
SHOP
CART
MANAGE AGENTS
Instructions
Click on "CREATE" to create a new back office user account. Select a back office user in the list box and click "MODIFY" to view information. Specify user Type to filter the list of users.
CREATE
608b
602b
User Type
604b
All Agents
Users
606b
Active
Active
Active
Active
Active
Active
Active
Inactive
Inactive
Inactive
Inactivate2, Inactivate2
Inactivate3, Inactivate3
610b
MODIFY
User Home | Manage Agents | Customer Home | Shop | Cart

FIG. 6B

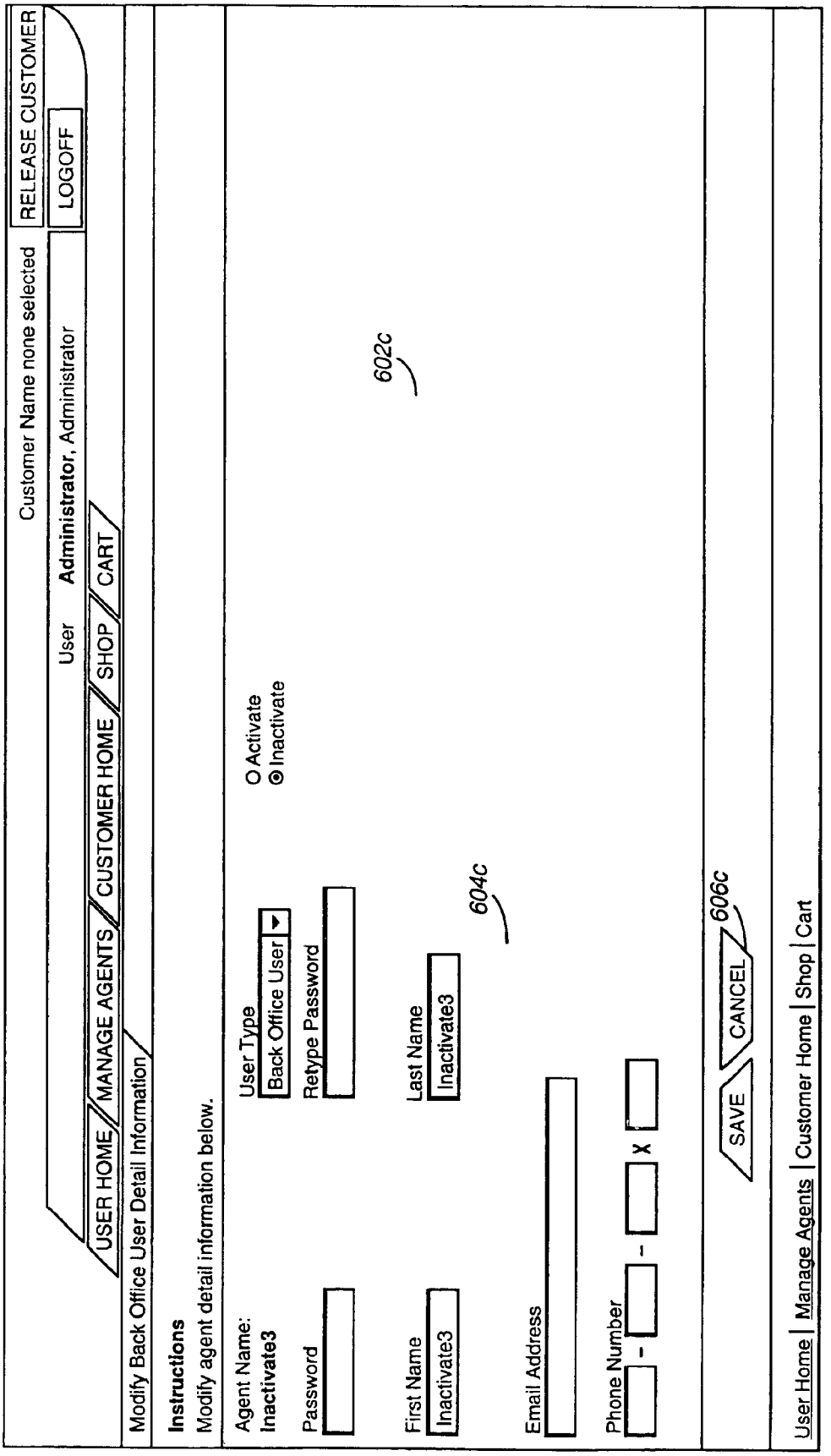
Customer Name none selected
RELEASE CUSTOMER
User Administrator, Administrator
LOGOFF
USER HOME
MANAGE AGENTS
CUSTOMER HOME
SHOP
CART
Modify Back Office User Detail Information
Instructions
Modify agent detail information below.
Agent Name:
Inactivate3
User Type
Back Office User
O Activate
Inactivate
Password
Retype Password
602c
First Name
Inactivate3
Last Name
Inactivate3
604c
Email Address
Phone Number
-
-
x
SAVE
CANCEL
606c
User Home | Manage Agents | Customer Home | Shop | Cart

FIG. 6C

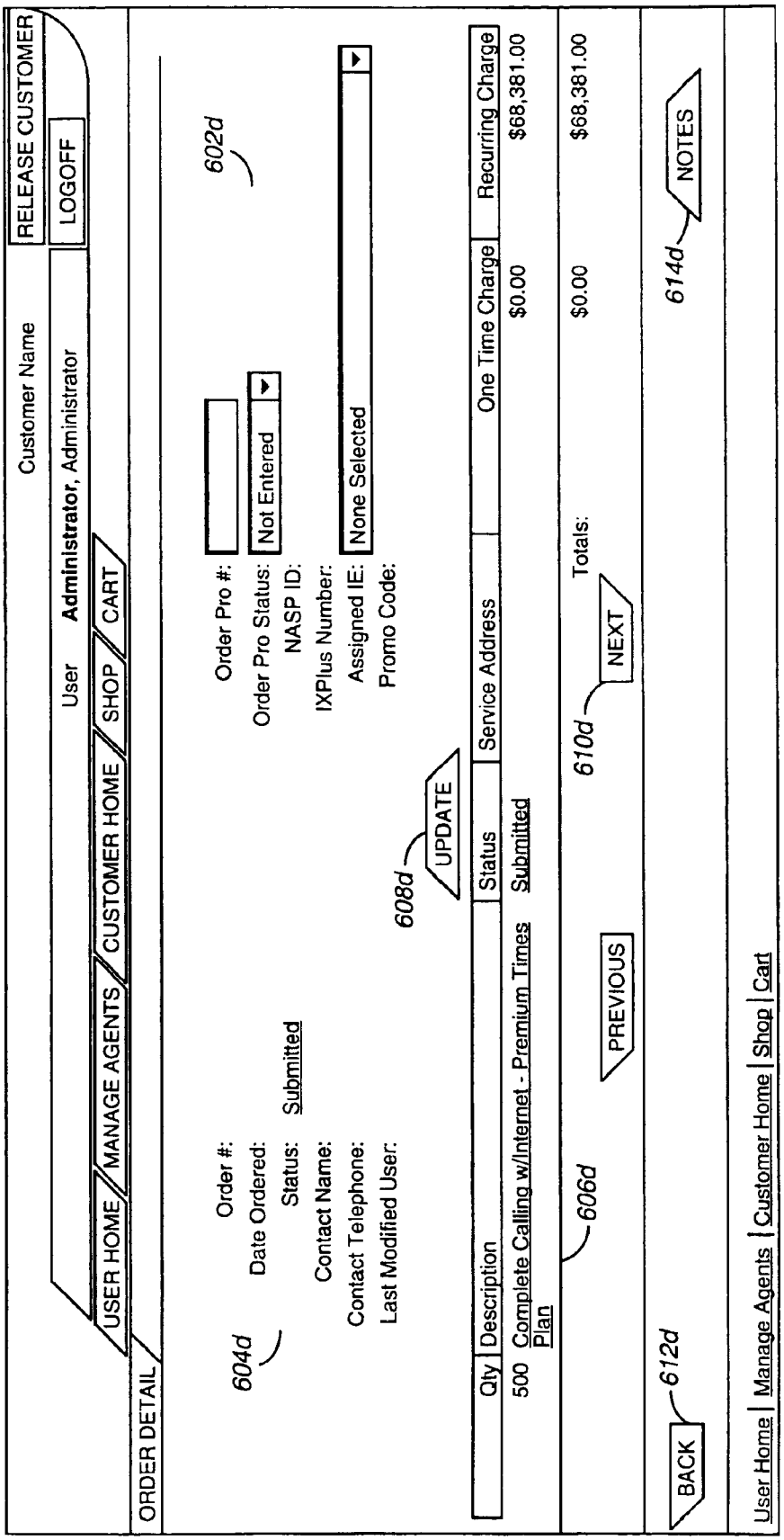
Customer Name
RELEASE CUSTOMER
User Administrator, Administrator
LOGOFF
USER HOME
MANAGE AGENTS
CUSTOMER HOME
SHOP
CART
ORDER DETAIL
604d
Order #:
Date Ordered:
Status: Submitted
Contact Name:
Contact Telephone:
Last Modified User:
602d
Order Pro #:
Order Pro Status: Not Entered
NASP ID:
IXPlus Number:
Assigned IE: None Selected
Promo Code:
608d
UPDATE
Qty
Description
Status
Service Address
One Time Charge
Recurring Charge
500 Complete Calling w/Internet - Premium Times Plan
Submitted
$0.00
$68,381.00
606d
610d
Totals:
$0.00
$68,381.00
PREVIOUS
NEXT
612d
614d
BACK
NOTES
User Home | Manage Agents | Customer Home | Shop | Cart

FIG. 6D

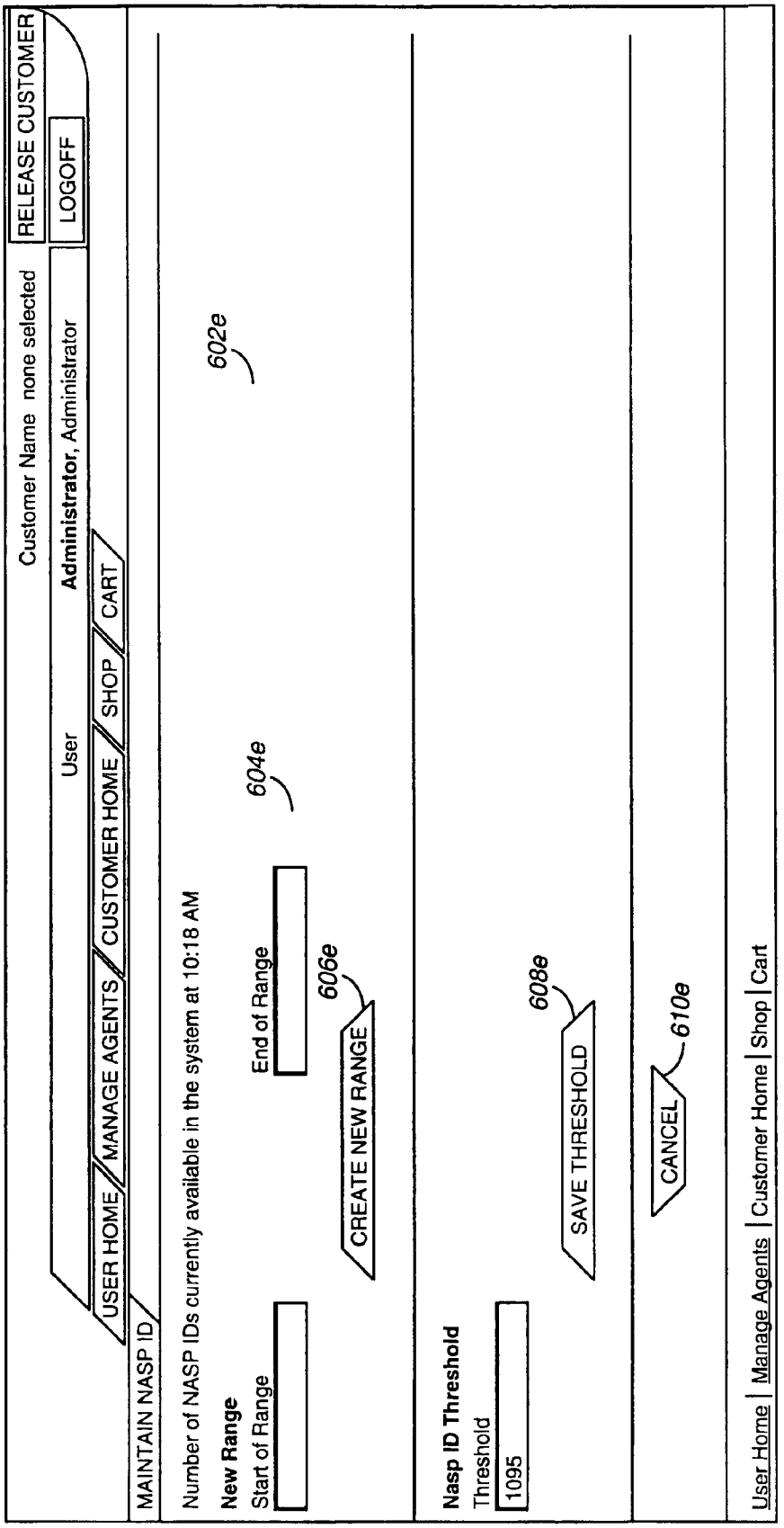
Customer Name none selected
RELEASE CUSTOMER
User Administrator, Administrator
LOGOFF
USER HOME
MANAGE AGENTS
CUSTOMER HOME
SHOP
CART
MAINTAIN NASP ID
Number of NASP IDs currently available in the system at 10:18 AM
602e
New Range
Start of Range
End of Range
604e
606e
CREATE NEW RANGE
Nasp ID Threshold
Threshold
1095
608e
SAVE THRESHOLD
CANCEL
610e
User Home | Manage Agents | Customer Home | Shop | Cart

FIG. 6E

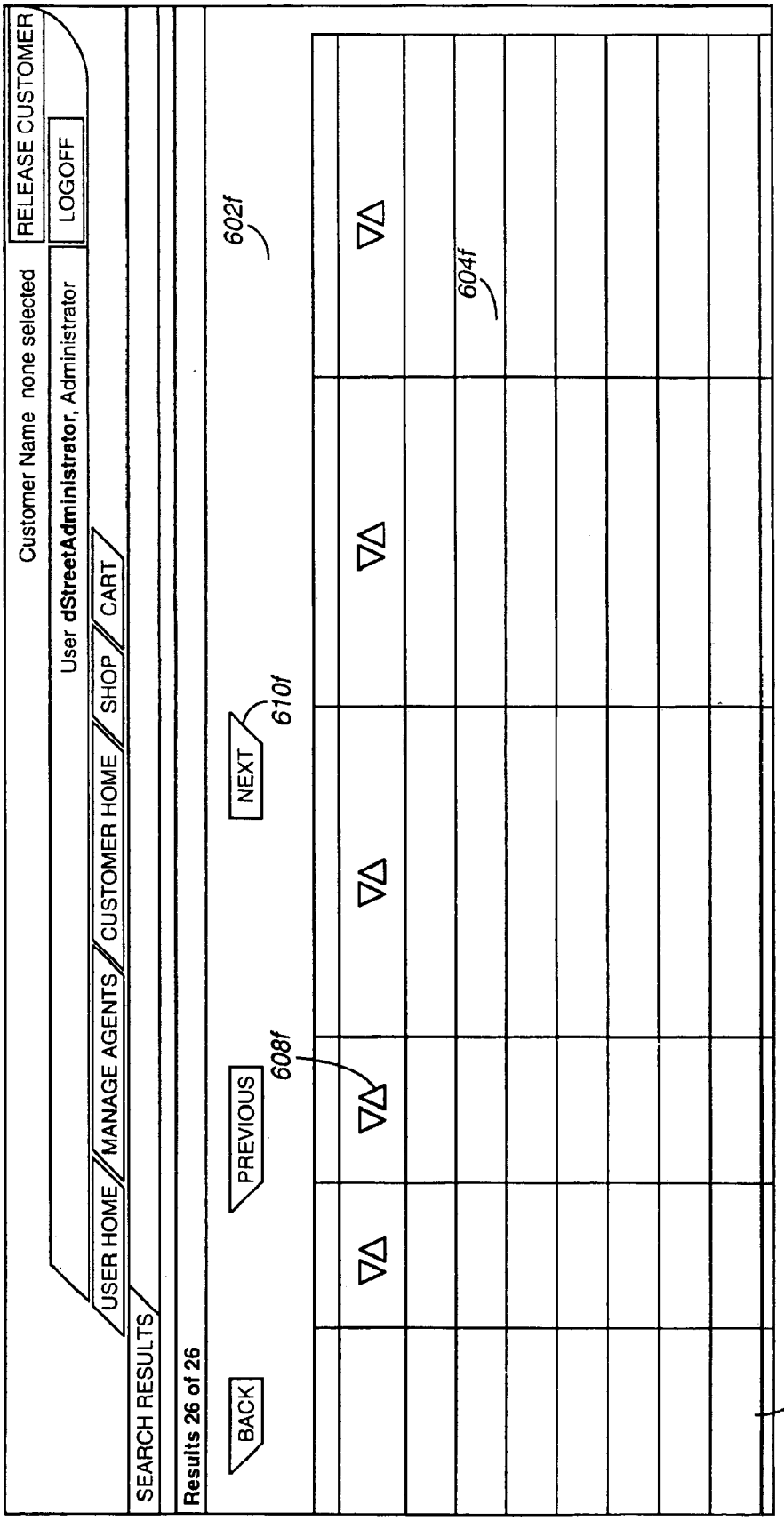
Customer Name none selected
RELEASE CUSTOMER
User dStreetAdministrator, Administrator
LOGOFF
USER HOME
MANAGE AGENTS
CUSTOMER HOME
SHOP
CART
SEARCH RESULTS
Results 26 of 26
602f
BACK
PREVIOUS
608f
NEXT
610f
604f
606f

FIG. 6F

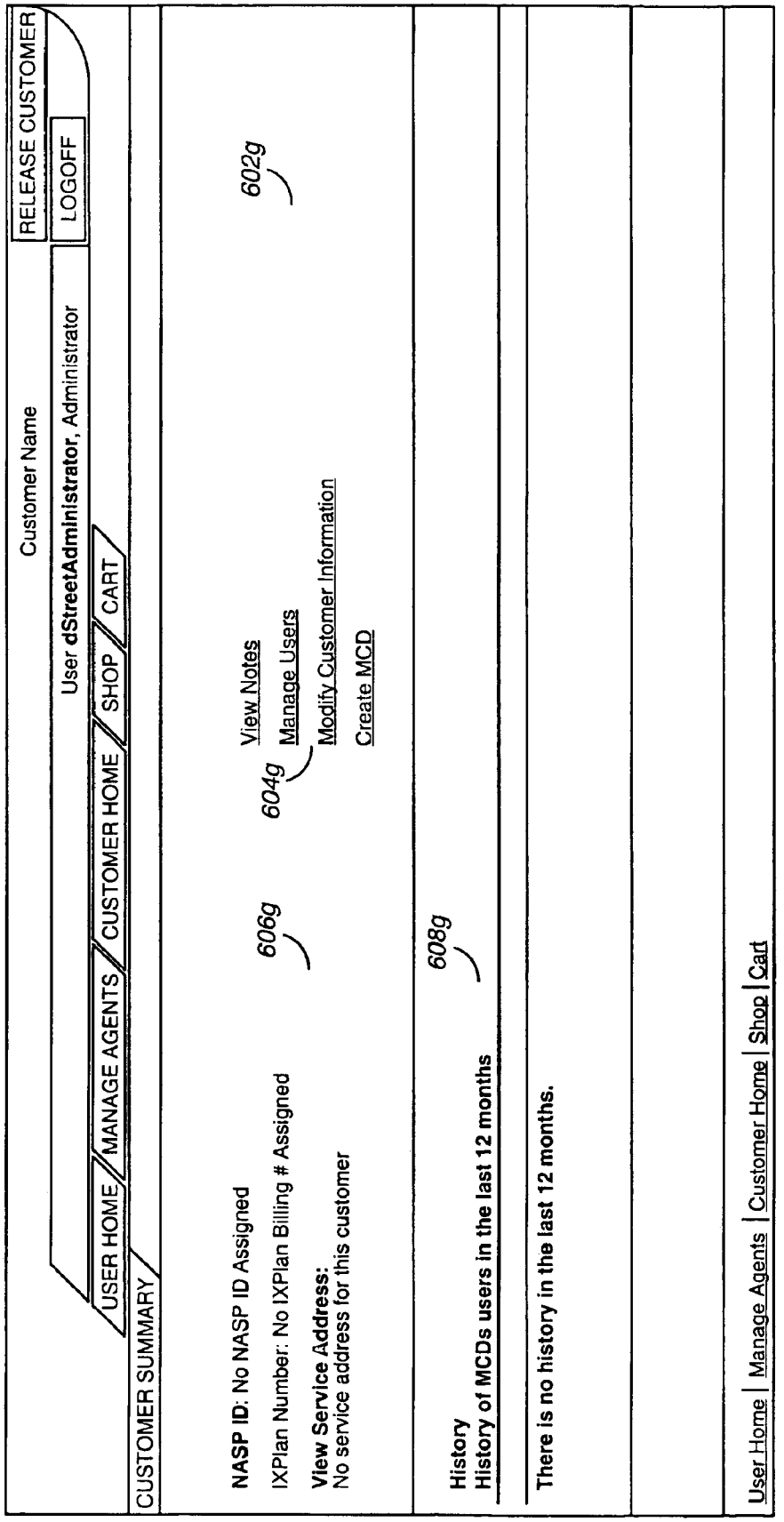
Customer Name
RELEASE CUSTOMER
User dStreetAdministrator, Administrator
LOGOFF
USER HOME
MANAGE AGENTS
CUSTOMER HOME
SHOP
CART
CUSTOMER SUMMARY
NASP ID: No NASP ID Assigned
IXPlan Number: No IXPlan Billing # Assigned
View Service Address:
No service address for this customer
606g
604g
View Notes
Manage Users
Modify Customer Information
Create MCD
602g
608g
History
History of MCDs users in the last 12 months
There is no history in the last 12 months.
User Home | Manage Agents | Customer Home | Shop | Cart

FIG. 6G

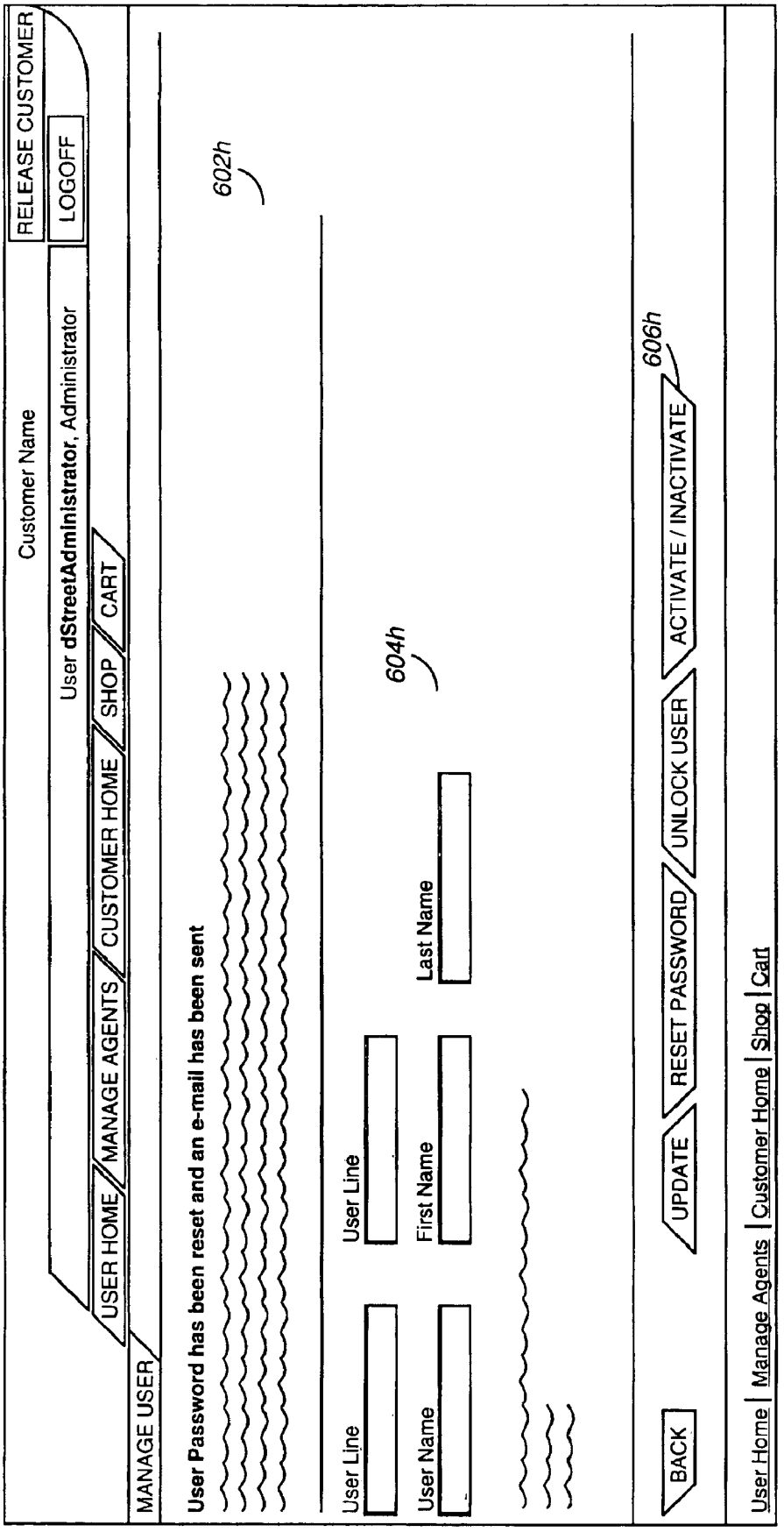
Customer Name
RELEASE CUSTOMER
User dStreetAdministrator, Administrator
LOGOFF
USER HOME
MANAGE AGENTS
CUSTOMER HOME
SHOP
CART
MANAGE USER
602h
User Password has been reset and an e-mail has been sent
User Line
User Line
604h
User Name
First Name
Last Name
BACK
UPDATE
RESET PASSWORD
UNLOCK USER
ACTIVATE / INACTIVATE
606h
User Home | Manage Agents | Customer Home | Shop | Cart

FIG. 6H

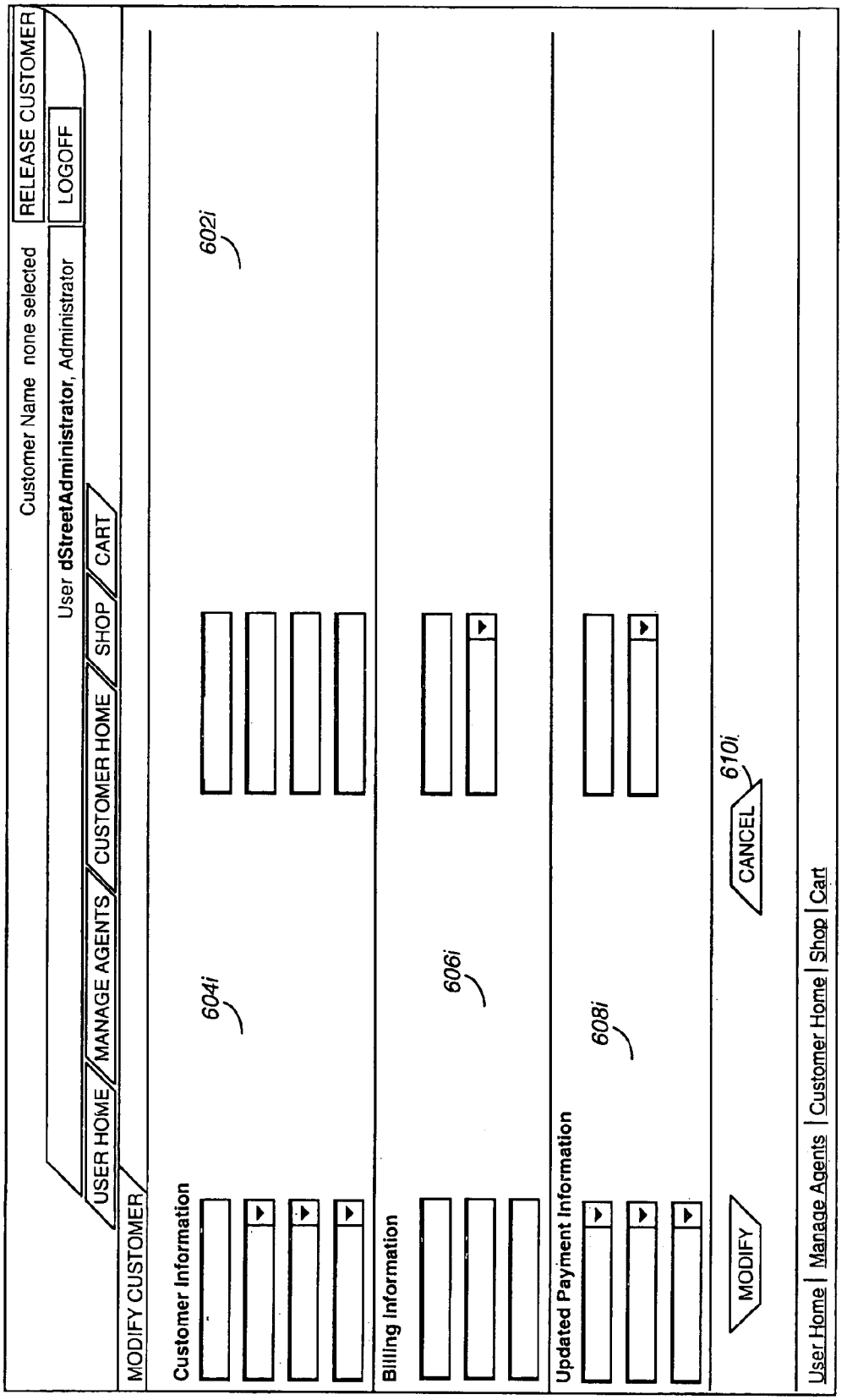
Customer Name none selected
RELEASE CUSTOMER
User dStreetAdministrator, Administrator
LOGOFF
USER HOME
MANAGE AGENTS
CUSTOMER HOME
SHOP
CART
MODIFY CUSTOMER
Customer Information
604i
602i
Billing Information
606i
Updated Payment Information
608i
MODIFY
CANCEL
610i
User Home | Manage Agents | Customer Home | Shop | Cart

FIG. 6I

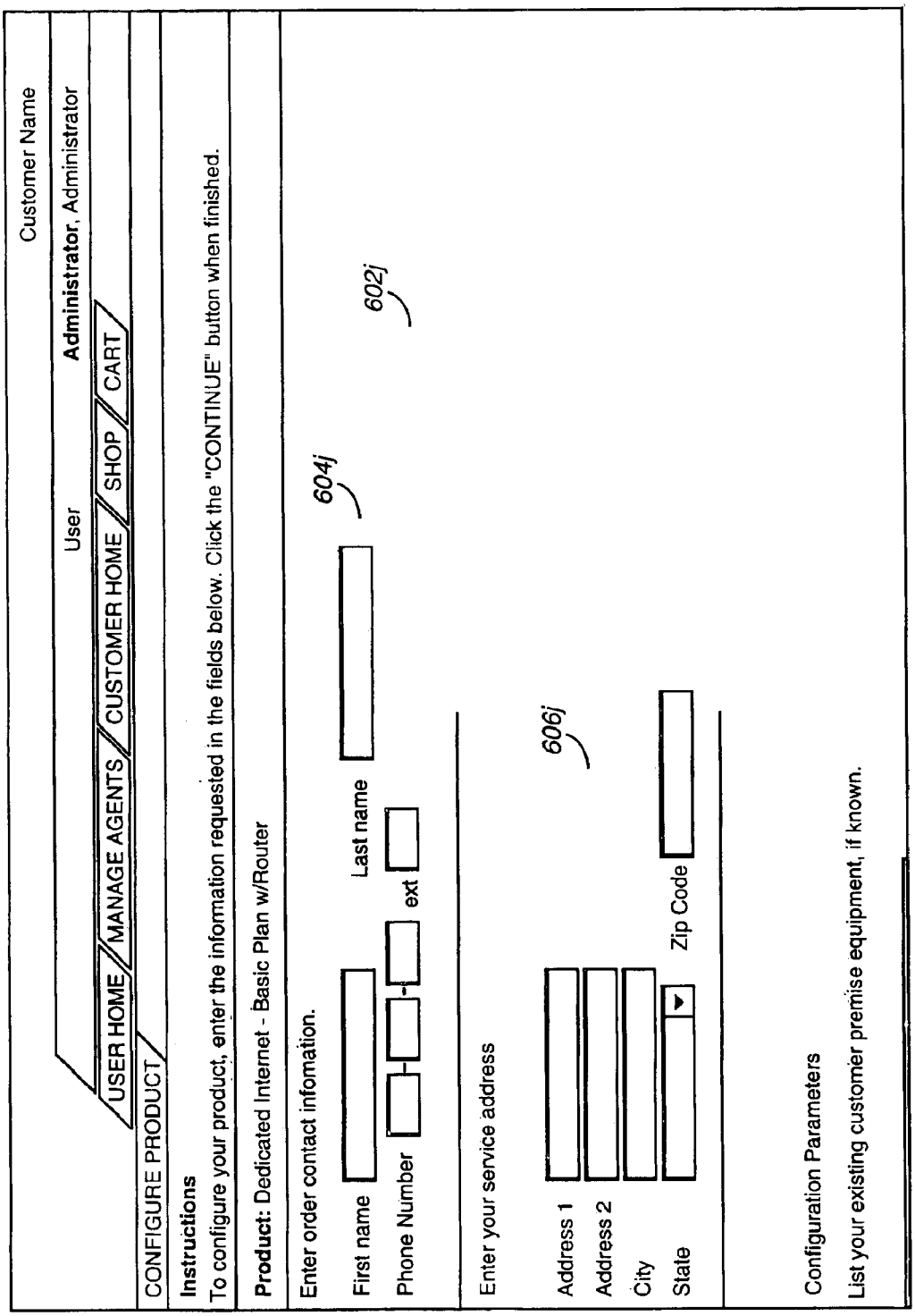
Customer Name
User
Administrator, Administrator
USER HOME
MANAGE AGENTS
CUSTOMER HOME
SHOP
CART
CONFIGURE PRODUCT
Instructions
To configure your product, enter the information requested in the fields below. Click the "CONTINUE" button when finished.
Product: Dedicated Internet - Basic Plan w/Router
Enter order contact infomation.
First name
Last name
Phone Number
ext
604j
602j
Enter your service address
Address 1
Address 2
City
State
Zip Code
606j
Configuration Parameters
List your existing customer premise equipment, if known.

FIG. 6J

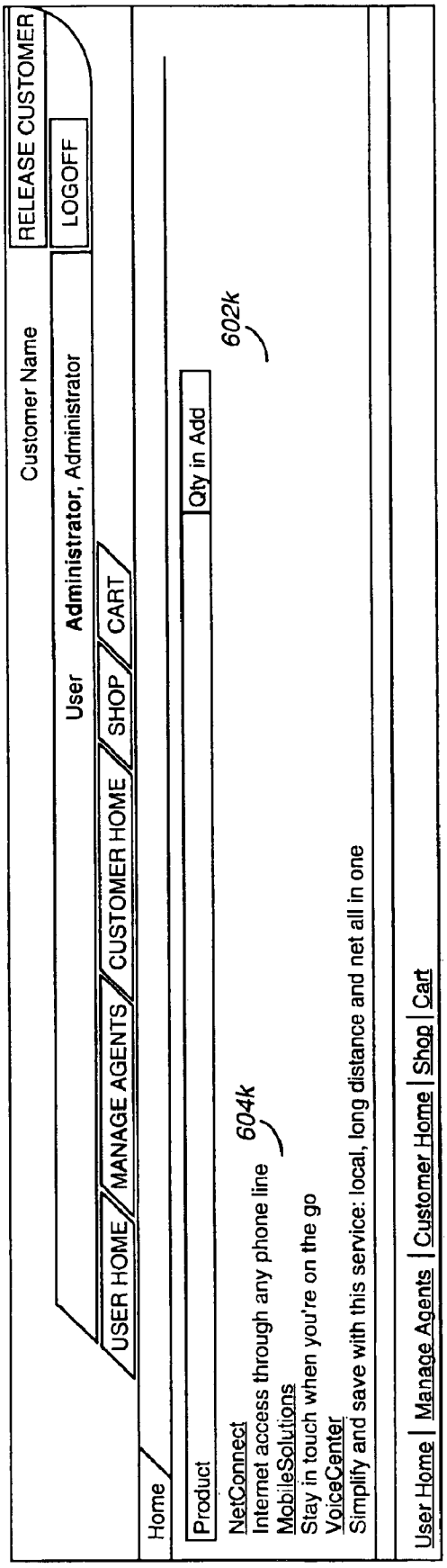
Customer Name
RELEASE CUSTOMER
User Administrator, Administrator
LOGOFF
USER HOME
MANAGE AGENTS
CUSTOMER HOME
SHOP
CART
Home
Product
Qty in Add
602k
NetConnect
Internet access through any phone line
604k
MobileSolutions
Stay in touch when you're on the go
VoiceCenter
Simplify and save with this service: local, long distance and net all in one
User Home | Manage Agents | Customer Home | Shop | Cart

FIG. 6K

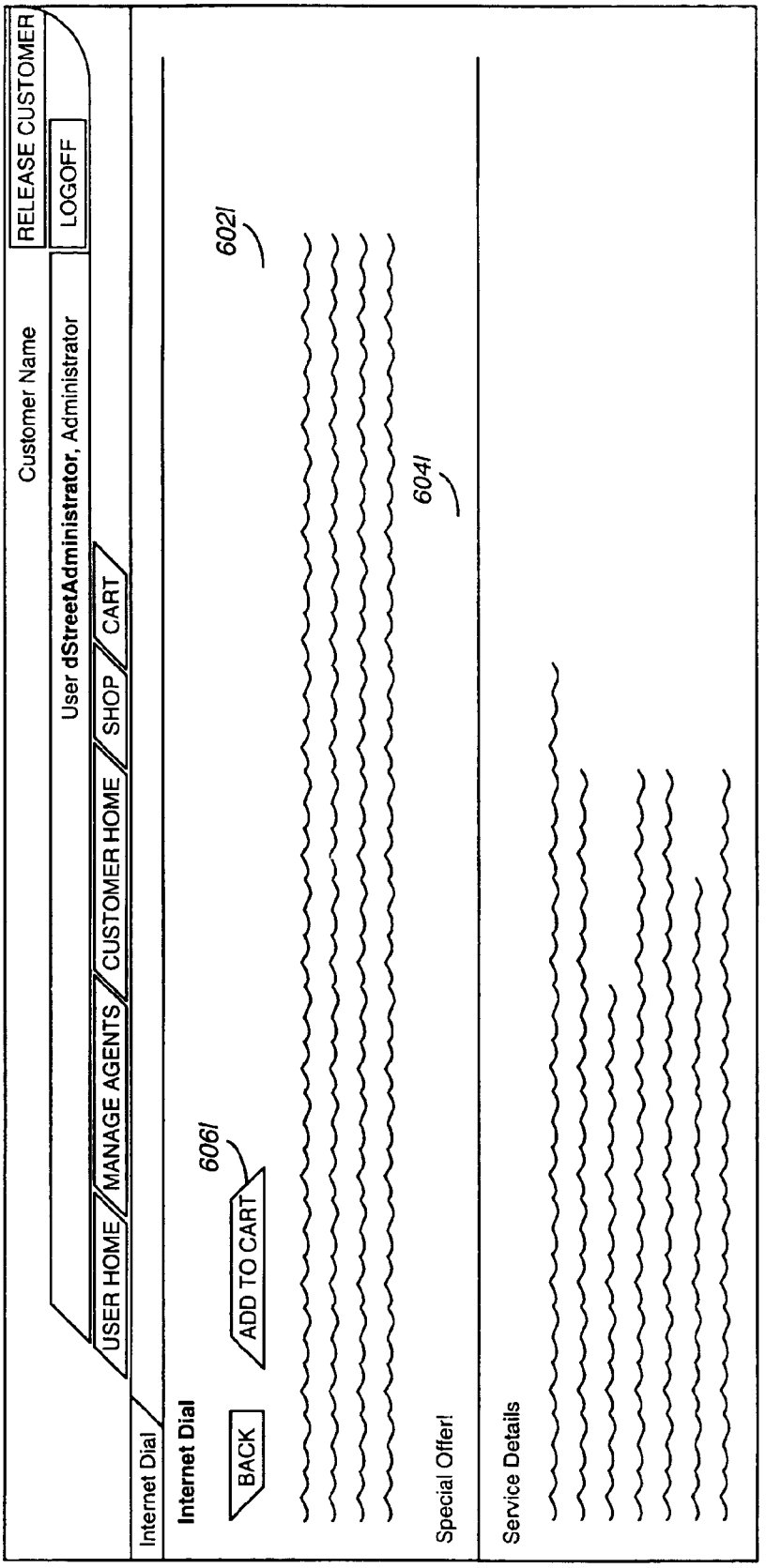
Customer Name
RELEASE CUSTOMER
User dStreetAdministrator, Administrator
LOGOFF
USER HOME
MANAGE AGENTS
CUSTOMER HOME
SHOP
CART
Internet Dial
Internet Dial
BACK
ADD TO CART
606I
602I
604I
Special Offer!
Service Details

FIG. 6L

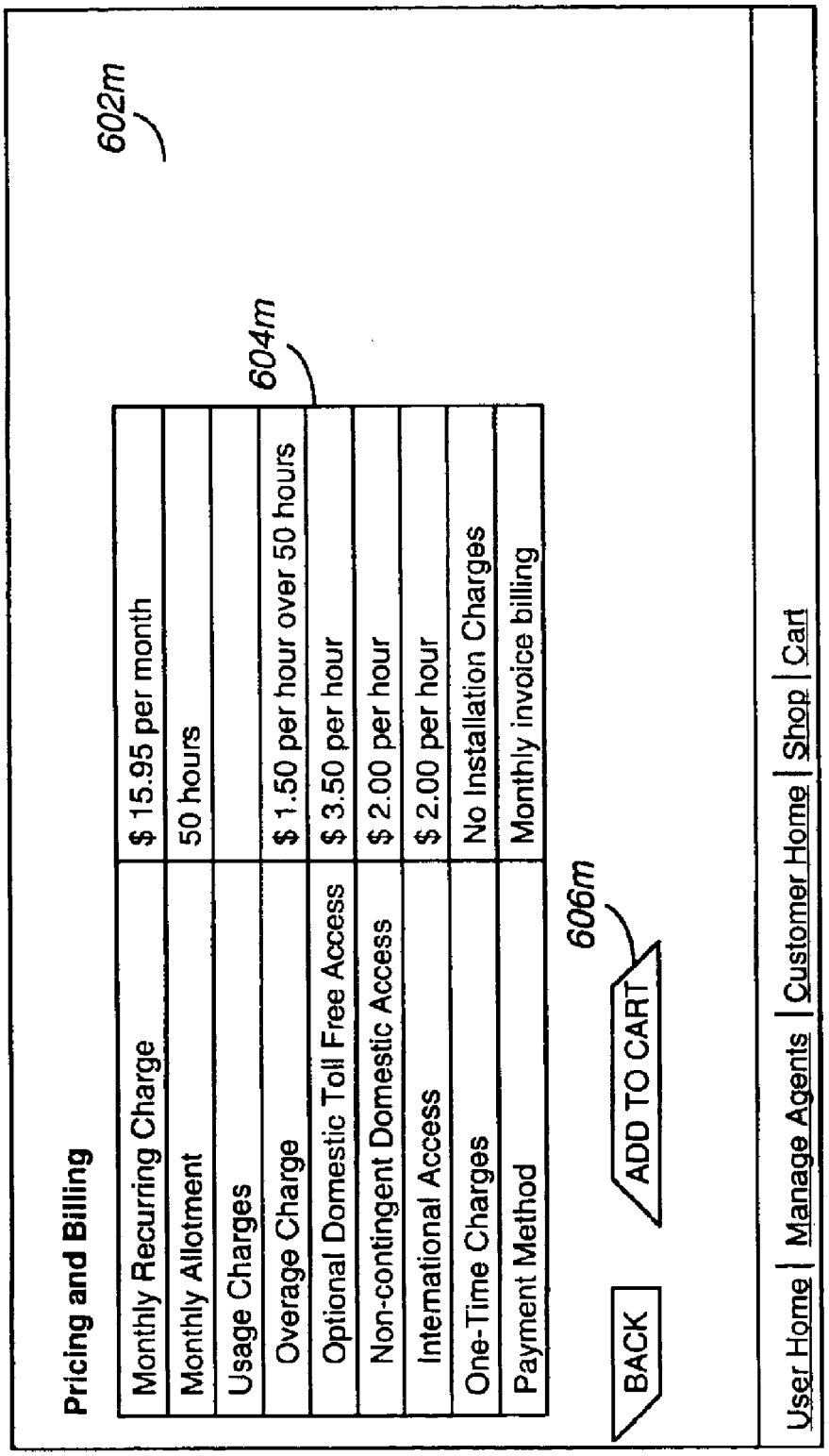
602m
Pricing and Billing
Monthly Recurring Charge
$ 15.95 per month
Monthly Allotment
50 hours
Usage Charges
Overage Charge
$ 1.50 per hour over 50 hours
604m
Optional Domestic Toll Free Access
$ 3.50 per hour
Non-contingent Domestic Access
$ 2.00 per hour
International Access
$ 2.00 per hour
One-Time Charges
No Installation Charges
Payment Method
Monthly invoice billing
606m
BACK
ADD TO CART
User Home | Manage Agents | Customer Home | Shop | Cart

FIG. 6M

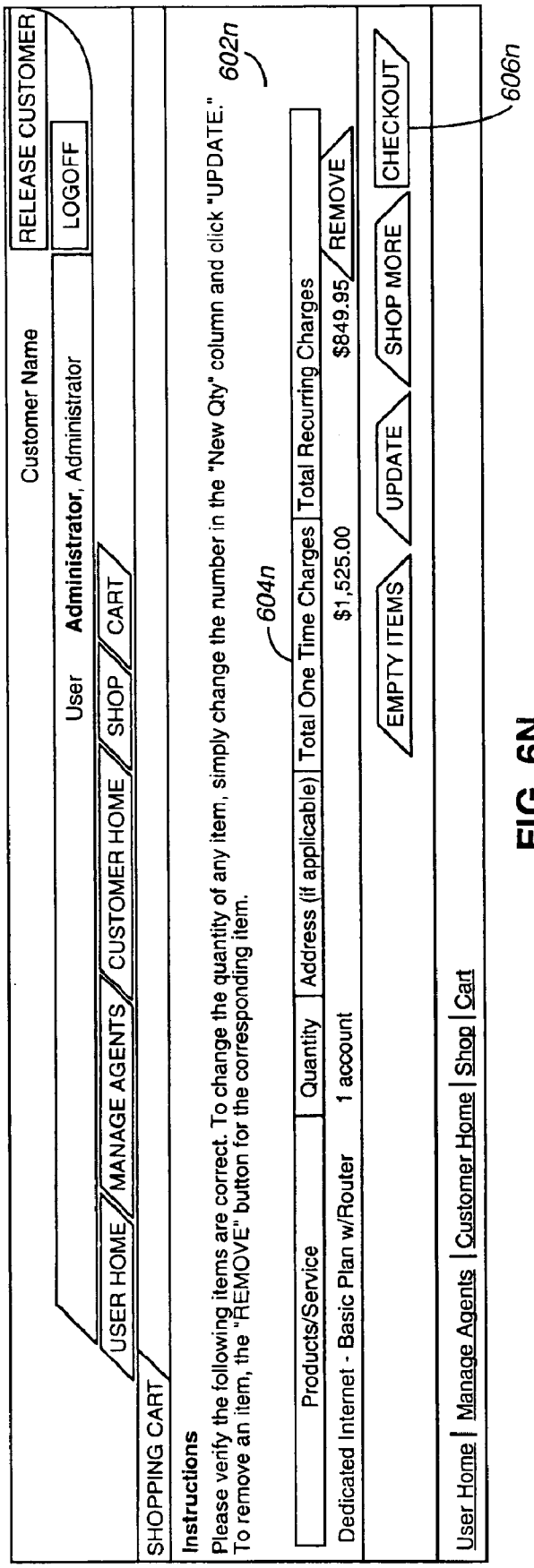
Customer Name
RELEASE CUSTOMER
User Administrator, Administrator
LOGOFF
USER HOME
MANAGE AGENTS
CUSTOMER HOME
SHOP
CART
SHOPPING CART
Instructions
Please verify the following items are correct. To change the quantity of any item, simply change the number in the "New Qty" column and click "UPDATE."
To remove an item, the "REMOVE" button for the corresponding item.
602n
604n
Products/Service
Quantity
Address (if applicable)
Total One Time Charges
Total Recurring Charges
Dedicated Internet - Basic Plan w/Router
1 account
$1,525.00
$849.95
REMOVE
EMPTY ITEMS
UPDATE
SHOP MORE
CHECKOUT
606n
User Home | Manage Agents | Customer Home | Shop | Cart

FIG. 6N

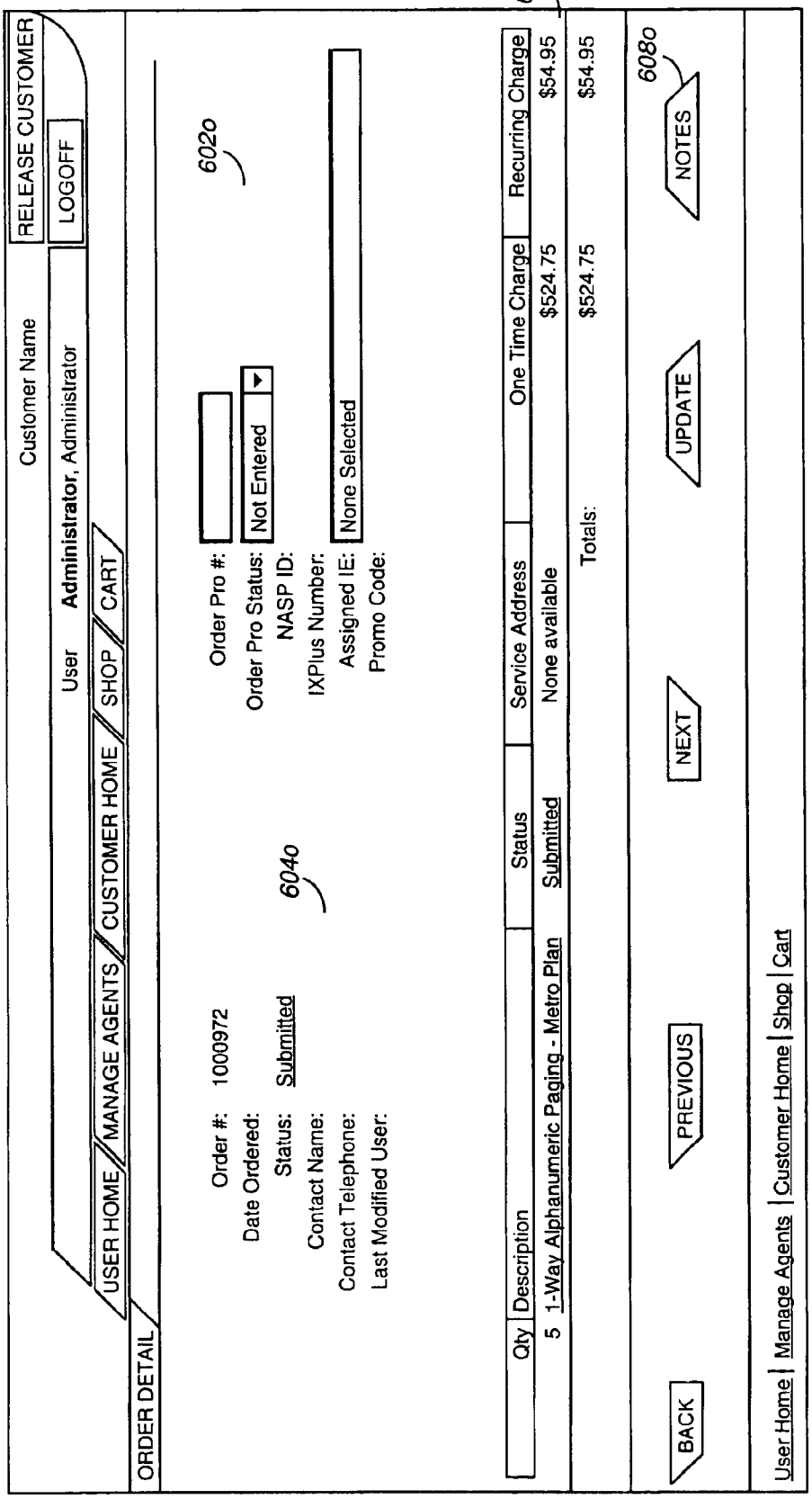
Customer Name
RELEASE CUSTOMER
User Administrator, Administrator
LOGOFF
USER HOME
MANAGE AGENTS
CUSTOMER HOME
SHOP
CART
ORDER DETAIL
Order #: 1000972
Date Ordered:
Status: Submitted
Contact Name:
Contact Telephone:
Last Modified User:
6040
Order Pro #:
Order Pro Status: Not Entered
NASP ID:
IXPlus Number:
Assigned IE: None Selected
Promo Code:
6020
Qty
Description
Status
Service Address
One Time Charge
Recurring Charge
6060
5 1-Way Alphanumeric Paging - Metro Plan
Submitted
None available
$524.75
$54.95
Totals:
$524.75
$54.95
BACK
PREVIOUS
NEXT
UPDATE
NOTES
6080
User Home | Manage Agents | Customer Home | Shop | Cart

FIG. 6O

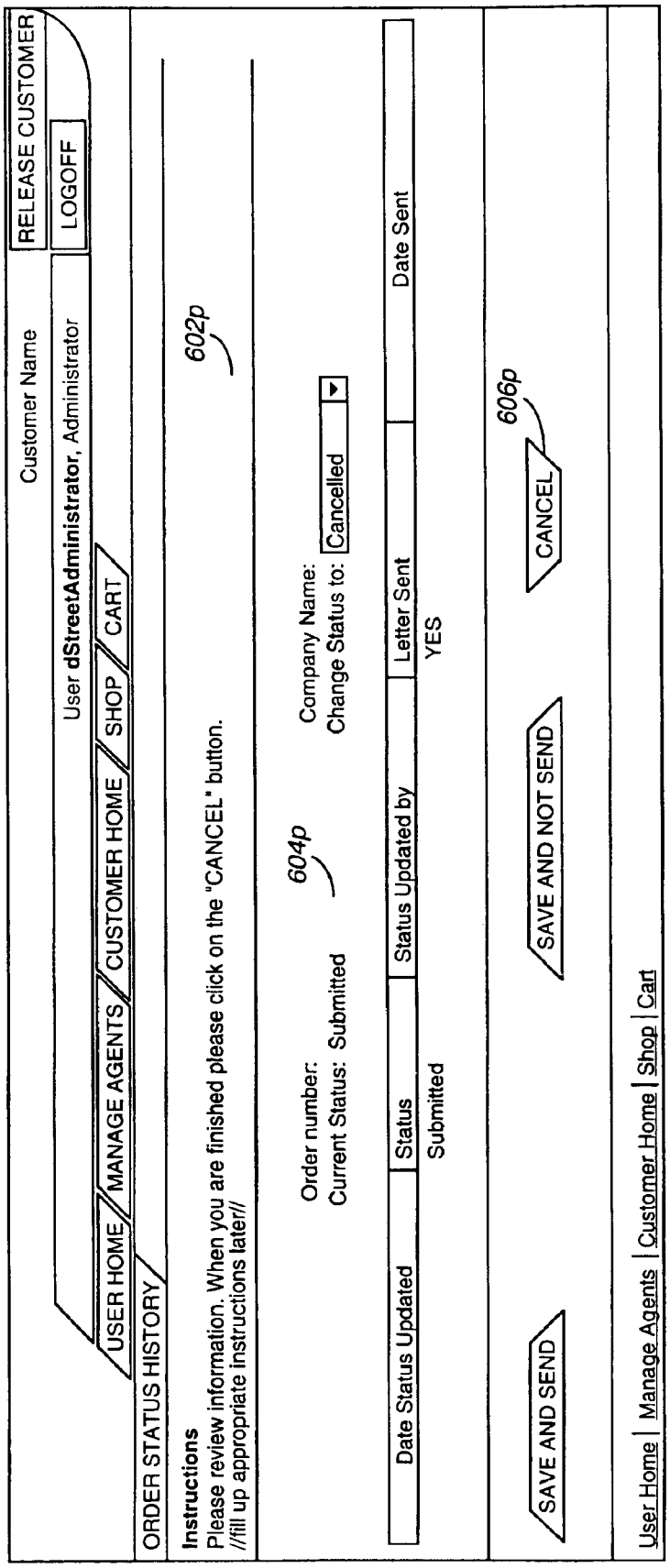
Customer Name
RELEASE CUSTOMER
User dStreetAdministrator, Administrator
LOGOFF
USER HOME
MANAGE AGENTS
CUSTOMER HOME
SHOP
CART
ORDER STATUS HISTORY
602p
Instructions
Please review information. When you are finished please click on the "CANCEL" button.
//fill up appropriate instructions later//
604p
Order number:
Current Status: Submitted
Company Name:
Change Status to: Cancelled
Date Status Updated
Status
Status Updated by
Letter Sent
Date Sent
Submitted
YES
606p
SAVE AND SEND
SAVE AND NOT SEND
CANCEL
User Home | Manage Agents | Customer Home | Shop | Cart

FIG. 6P

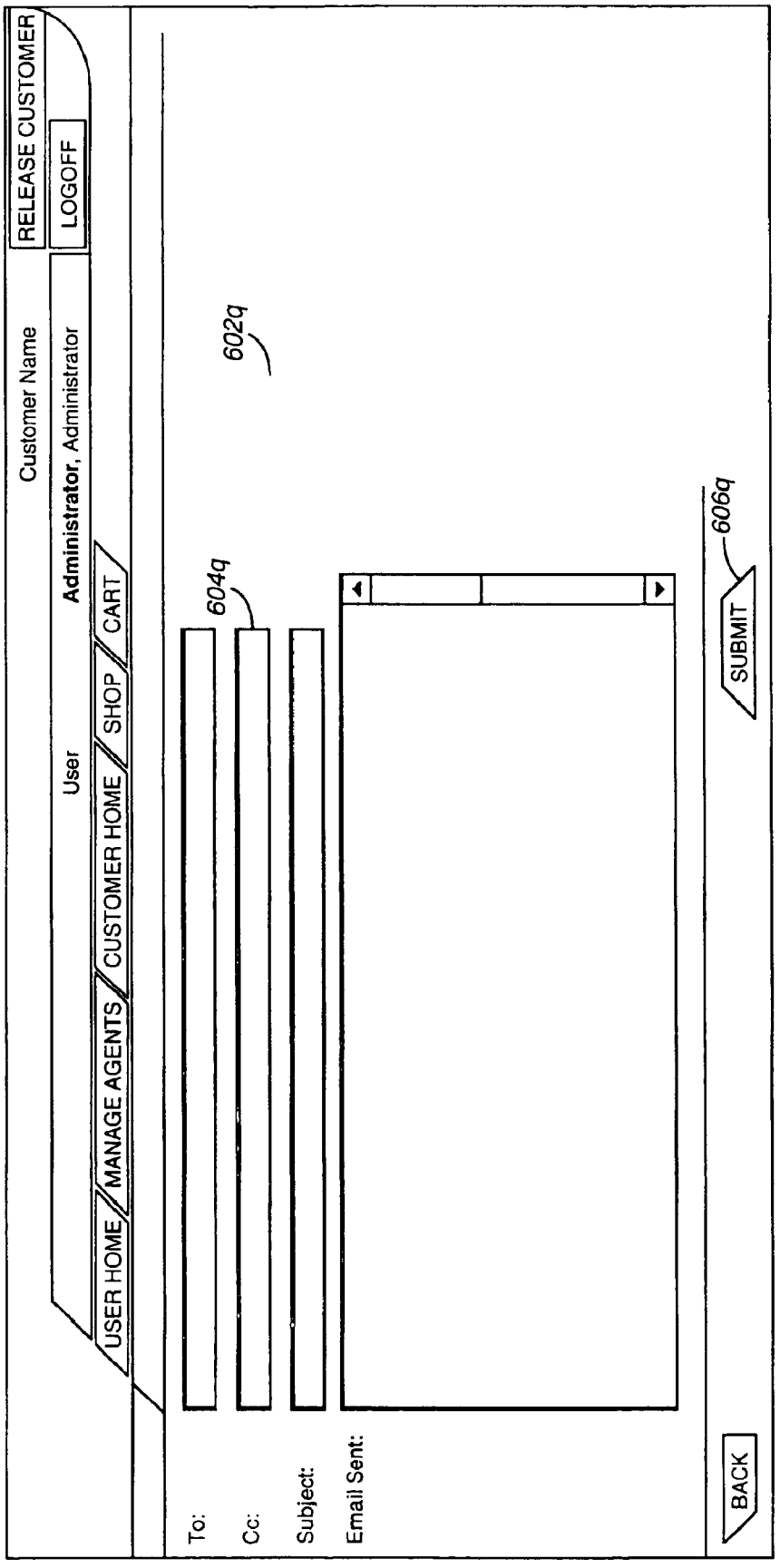
RELEASE CUSTOMER
Customer Name
LOGOFF
User
Administrator, Administrator
USER HOME
MANAGE AGENTS
CUSTOMER HOME
SHOP
CART
602q
604q
606q
To:
Cc:
Subject:
Email Sent:
SUBMIT
BACK

FIG. 6Q

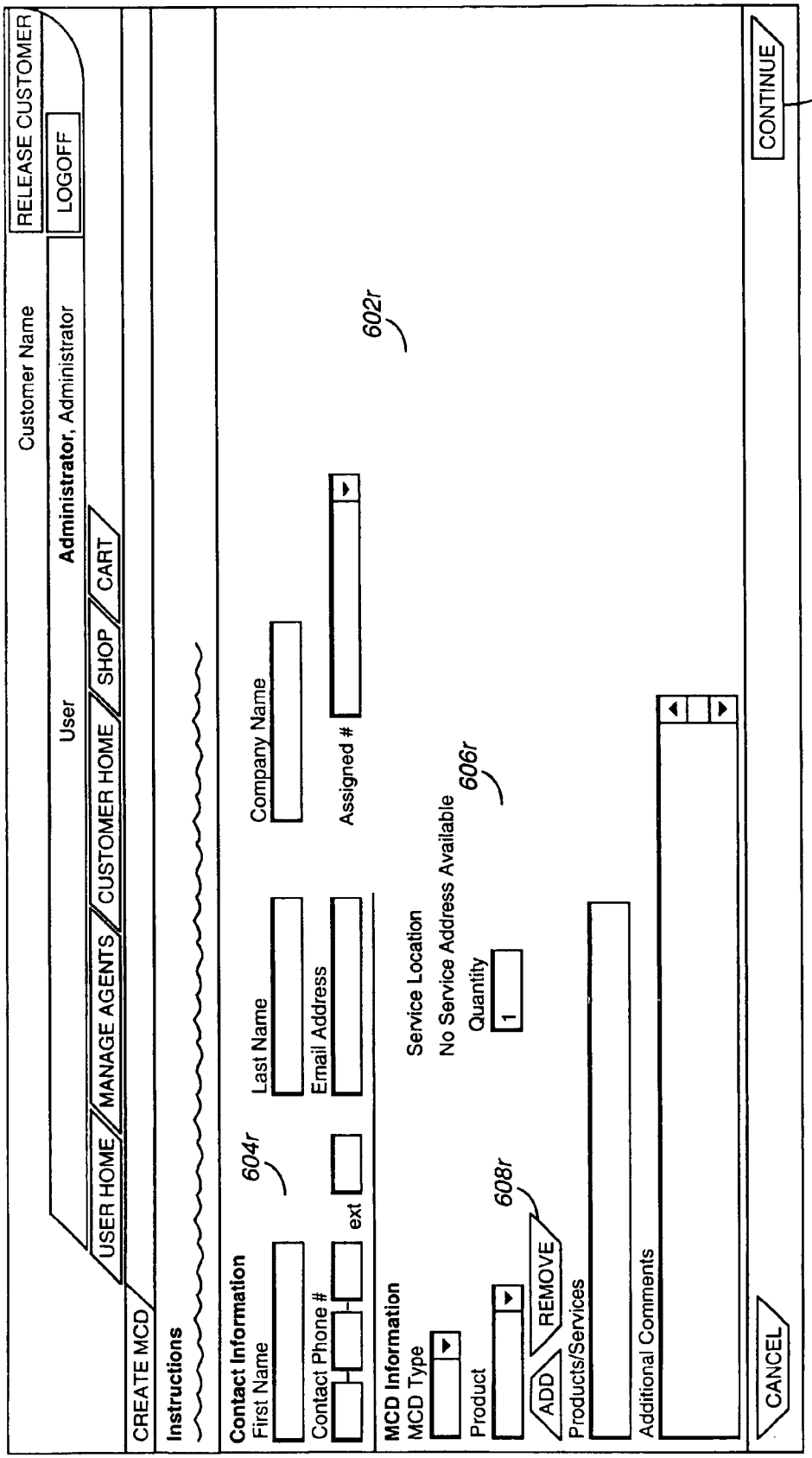
Customer Name
RELEASE CUSTOMER
User
Administrator, Administrator
LOGOFF
USER HOME
MANAGE AGENTS
CUSTOMER HOME
SHOP
CART
CREATE MCD
Instructions
Contact Information
First Name
Last Name
Company Name
Contact Phone #
ext
Email Address
Assigned #
604r
602r
MCD Information
MCD Type
Service Location
No Service Address Available
606r
Product
Quantity
1
608r
ADD
REMOVE
Products/Services
Additional Comments
CANCEL
CONTINUE
610r

FIG. 6R

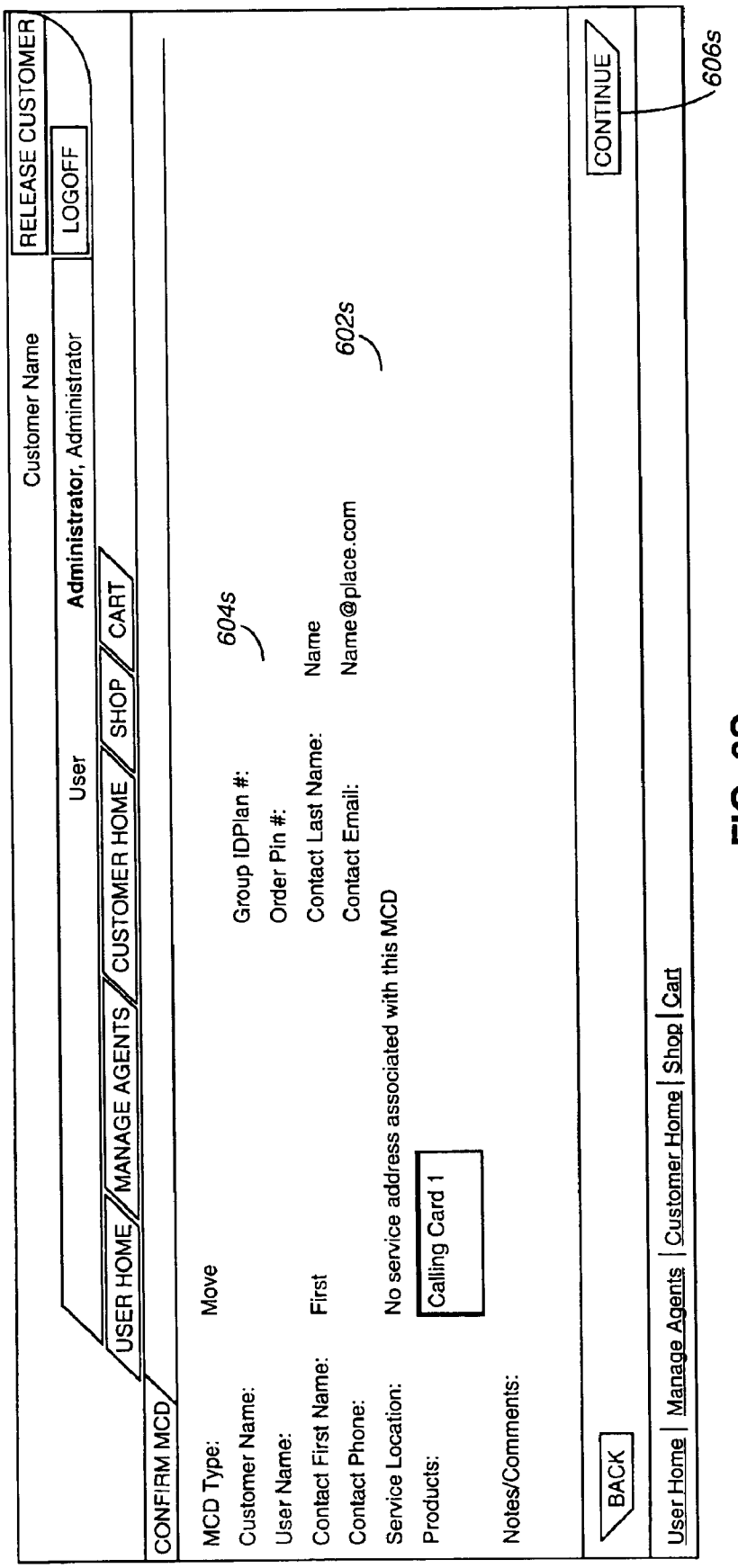
Customer Name
RELEASE CUSTOMER
User
Administrator, Administrator
LOGOFF
USER HOME
MANAGE AGENTS
CUSTOMER HOME
SHOP
CART
CONFIRM MCD
MCD Type: Move
Customer Name:
User Name:
Contact First Name: First
Contact Phone:
Service Location: No service address associated with this MCD
Products: Calling Card 1
Notes/Comments:
Group IDPlan #:
Order Pin #:
Contact Last Name: Name
Contact Email: Name@place.com
604s
602s
BACK
CONTINUE
606s
User Home | Manage Agents | Customer Home | Shop | Cart

FIG. 6S

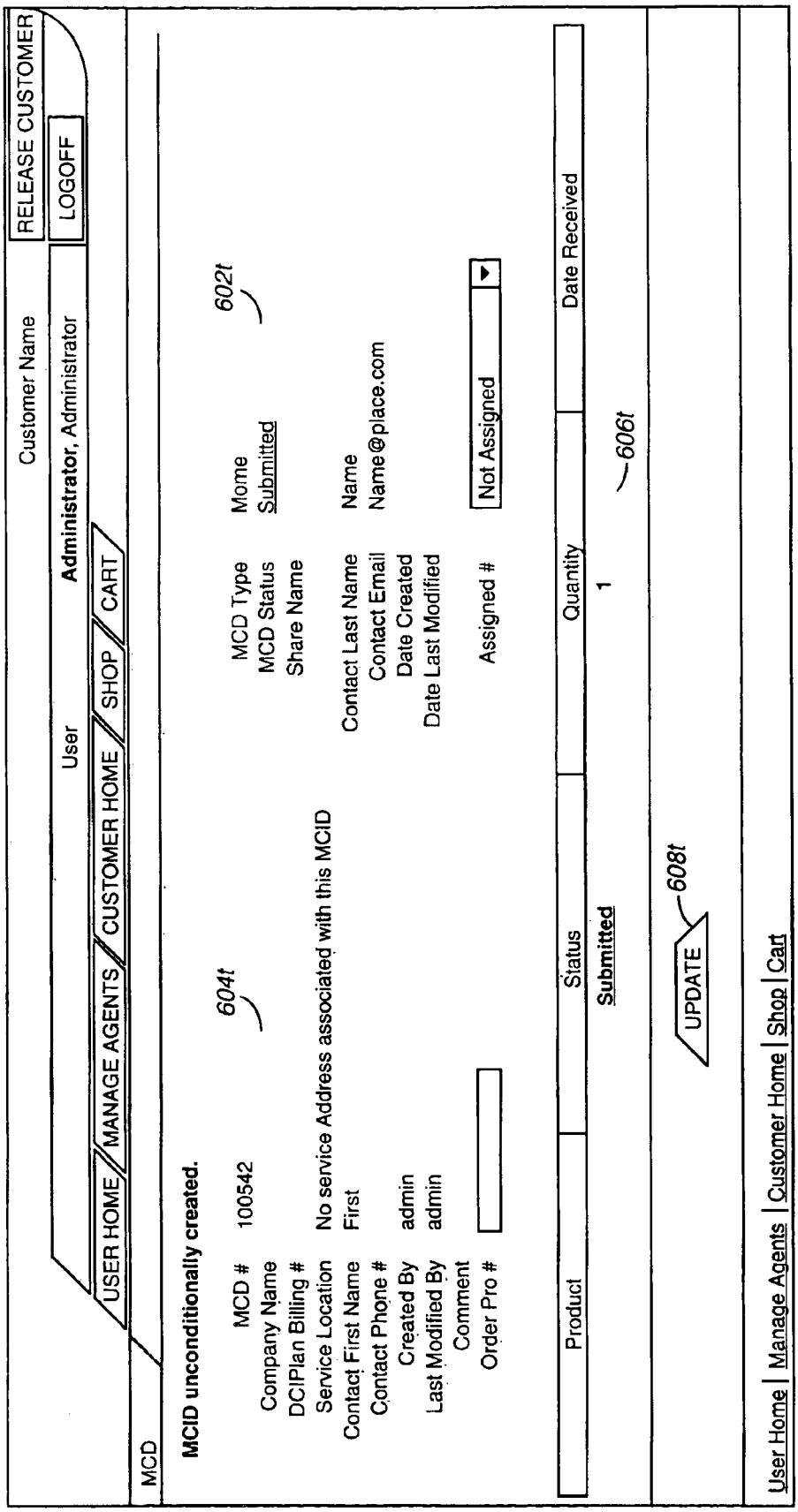
Customer Name
RELEASE CUSTOMER
User
Administrator, Administrator
LOGOFF
USER HOME
MANAGE AGENTS
CUSTOMER HOME
SHOP
CART
MCD
MCID unconditionally created.
604t
602t
MCD #
100542
MCD Type
Mome
Company Name
MCD Status
Submitted
DCIPlan Billing #
Share Name
Service Location
No service Address associated with this MCID
Contact First Name
First
Contact Last Name
Name
Contact Phone #
Contact Email
Name@place.com
Created By
admin
Date Created
Last Modified By
admin
Date Last Modified
Comment
Order Pro #
Assigned #
Not Assigned
Product
Status
Quantity
Date Received
Submitted
1
606t
UPDATE
608t
User Home | Manage Agents | Customer Home | Shop | Cart

FIG. 6T

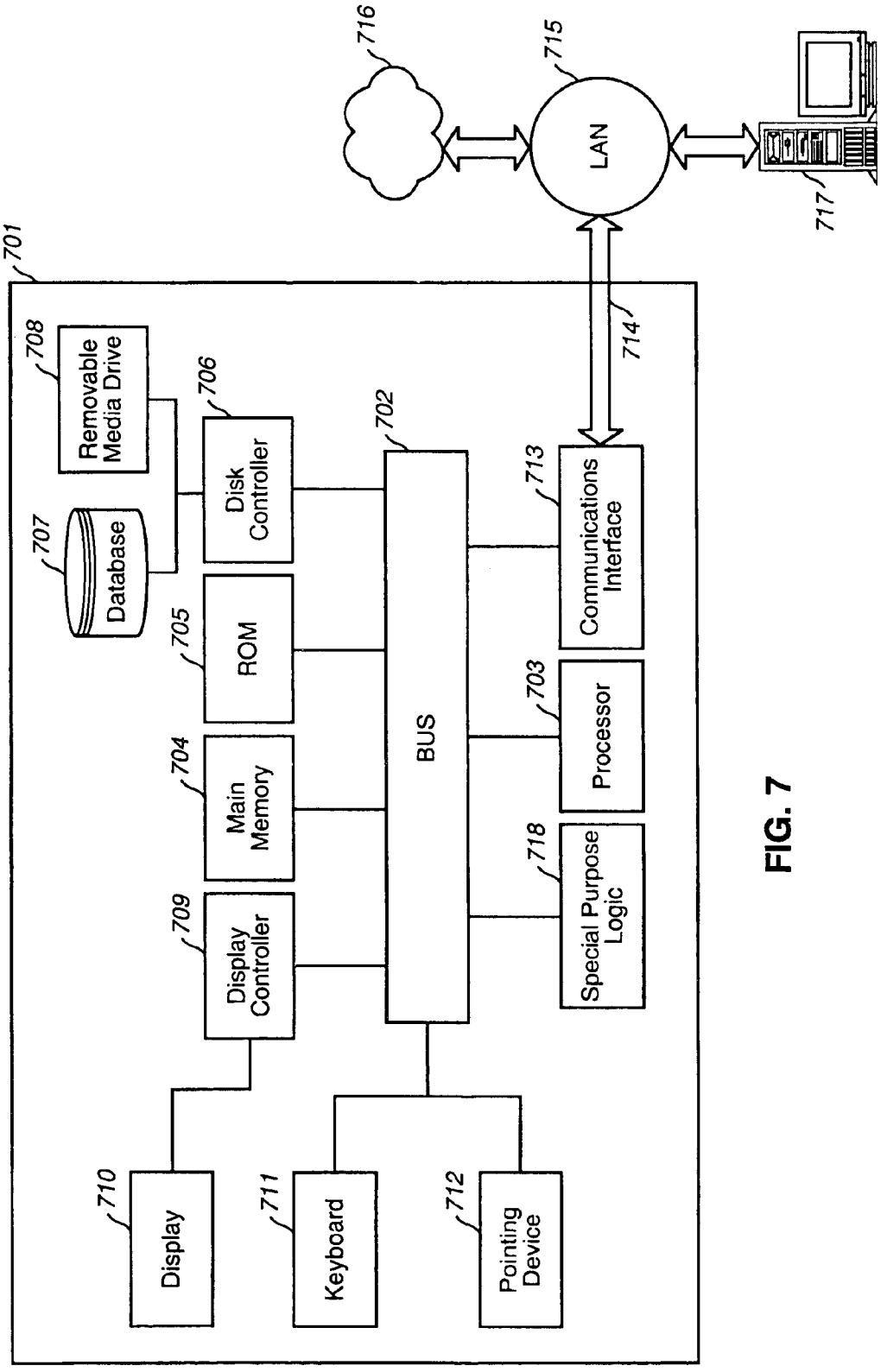
716
715
LAN
717
701
714
708
Removable Media Drive
706
Disk Controller
702
713
Communications Interface
707
Database
705
ROM
703
Processor
704
Main Memory
BUS
718
Special Purpose Logic
709
Display Controller
710
Display
711
Keyboard
712
Pointing Device

FIG. 7

GRAPHICAL USER INTERFACE FOR PROCURING TELECOMMUNICATIONS SERVICES ON-LINE

CROSS REFERENCE TO RELATED CASES

The present invention claims the benefit of priority under 35 U.S.C. § 119(e) to U.S. Provisional Patent Application No. 60/263,222 of Diemer et al, entitled "ON-LINE SERVICING SYSTEM," filed on Jan. 23, 2001.

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates to an information processing system and more particularly to a graphical user interface for procuring telecommunications offerings (e.g., telecommunications products and/or services) on-line.

2. Discussion of the Background

From the perspective of the customers of telecommunication services, the interaction between them and the customer representatives have been inefficient and frustrating. Because of the emergence of the many, and often perplexing, telecommunication services, the experience that the customers undergo when procuring services is far from user friendly. Further, customers do not enjoy dialing into a call center to wait in queue for a customer representative to tend to them, with no guarantees that the customer representative can adequately service their needs.

Service providers, therefore, have sought to provide a self-service on-line system through the use of the World Wide Web (WWW). However, ineffective user interfaces and non-integrated systems have introduced the same, if not greater, level of frustration than interacting with a live human. In particular, in light of the sophistication of modem telecommunication services, a live person may be required to intercede in the procurement process.

Based on the foregoing, there is a clear need for improved approaches for servicing customers via an on-line system to procure telecommunications services. There is also a need to enhance the efficiency of provisioning telecommunications services for the customers. There is a further need to cater to customers of varying level of sophistication, such that customers who require greater assistance are given the necessary attention.

Based on the need to enhance the customer experience in procuring telecommunication services, an approach for implementing an on-line system that provides a user-friendly and efficient mechanism to acquire services from a service provider is highly desirable.

SUMMARY OF THE INVENTION

The present invention addresses the above stated and other needs by providing an on-line system that offers an effective mechanism to efficiently procure telecommunication services. The system provides a new customer experience for pre-sale, order processing, and post-sale support. For pre-sale services, a prospective customer links to the site of, for example, a proprietary telecommunications service provider (or directly at a site promoting itself) and are presented with product materials and tools. Once the prospective customer has determined the services appropriate to his/her business and the system has qualified them, they may enter a Shopping Cart/Service Ordering section of the site, select their services and click on, for example, an "Order Now" button to proceed. Afterwards, a new customer may then enter either the site (or other on-line applications, such as Interact, etc.) to check order status, manage existing services, place additional orders, pay on-line, etc.

According to one aspect of the invention, there is provided a method for procuring telecommunications offerings on-line, including presenting a graphical user interface (GUI), including a telecommunications offerings region located in a portion of the GUI, the telecommunications offerings region including, a voice telecommunications offerings sub-region for providing access to voice telecommunications offerings, an Internet telecommunications offerings sub-region for providing access to Internet telecommunications offerings, and a mobile telecommunications offerings sub-region for providing access to mobile telecommunications offerings.

According to another aspect of the invention, there is provided a method for procuring telecommunications offerings on-line, including presenting a graphical user interface (GUI), including a search region located in a central portion of the GUI, the search region including a search for dropdown list, a search criteria sub-region, and reset and search buttons; and a tab region located in an upper portion of the GUI and including log off, user home, manage agents, customer home, shop, and cart tabs. The search for dropdown list is configured to select from a plurality of search items, including orders, customers, and move, change or disconnection (MCD) of an order, the search criteria sub-region is configured with fields and dropdown lists for entering search criteria information for a selected search item, the reset button is configured to clear entered search criteria information, the search button is configured to perform a search based on entered search criteria information, the log off tab is configured to log off a user from an on-line session, the user home tab is configured to display the search region, the manage agents tab is configured to display a window for creating and managing users of the GUI, the customer home tab is configured to display a customer facing GUI, the shop tab is configured to display web links to information on the telecommunications offerings, and the cart tab is configured to display a window including a shopping cart function.

According to another aspect of the invention, there is provided a method for generating a graphical user interface (GUI) for procuring telecommunications offerings on-line, including generating a telecommunications offerings region located in a portion of the GUI; generating, in the telecommunications offerings region, a voice telecommunications offerings sub-region for providing access to voice telecommunications offerings; generating, in the telecommunications offerings region, an Internet telecommunications offerings sub-region for providing access to Internet telecommunications offerings; and generating, in the telecommunications offerings region, a mobile telecommunications offerings sub-region for providing access to mobile telecommunications offerings.

According to another aspect of the invention, there is provided a method for generating a graphical user interface (GUI) for servicing telecommunications offerings on-line, including generating a search region located in a central portion of the GUI, the search region including a search for dropdown list, a search criteria sub-region, and reset and search buttons; and generating a tab region located in an upper portion of the GUI and including log off, user home, manage agents, customer home, shop, and cart tabs. The search for dropdown list is configured to select from a plurality of search items, including orders, customers, and move, change or disconnection (MCD) of an order, the search criteria sub-region is configured with fields and

dropdown lists for entering search criteria information for a selected search item, the reset button is configured to clear entered search criteria information, the search button is configured to perform a search based on entered search criteria information, the log off tab is configured to log off a user from an on-line session, the user home tab is configured to display the search region, the manage agents tab is configured to display a window for creating and managing users of the GUI, the customer home tab is configured to display a customer facing GUI, the shop tab is configured to display web links to information on the telecommunications offerings, and the cart tab is configured to display a window including a shopping cart function.

According to another aspect of the invention, there is provided a method for generating graphical user interfaces (GUIs) for procuring and servicing telecommunications offerings on-line, including generating a telecommunications offerings region located in a portion of a first GUI; generating, in the telecommunications offerings region, a voice telecommunications offerings sub-region for providing access to voice telecommunications offerings; generating, in the telecommunications offerings region, an Internet telecommunications offerings sub-region for providing access to Internet telecommunications offerings; generating, in the telecommunications offerings region, a mobile telecommunications offerings sub-region for providing access to mobile telecommunications offerings; generating a search region located in a central portion of a second GUI, the search region including a search for dropdown list, a search criteria sub-region, and reset and search buttons; and generating a tab region located in an upper portion of the second GUI and including log off, user home, manage agents, customer home, shop, and cart tabs.

According to another aspect of the invention, there is provided a system for procuring and servicing telecommunications offerings on-line, including a server including a server program configured to transmit data for generating a customer GUI on a customer computer, the customer GUI including a telecommunications offerings region, including a voice telecommunications offerings sub-region for providing access to voice telecommunications offerings, an Internet telecommunications offerings sub-region for providing access to Internet telecommunications offerings, and a mobile telecommunications offerings sub-region for providing access to mobile telecommunications offerings; the server program configured to generate a back office GUI on a back office computer, the back office GUI including a search region located in a central portion thereof and including a search for dropdown list, a search criteria sub-region, and reset and search buttons; and the back office GUI including a tab region located in an upper portion thereof and including log off, user home, manage agents, customer home, shop, and cart tabs.

According to another aspect of the invention, there is provided a graphical user interface (GUI) apparatus for procuring telecommunications offerings on-line, including means for generating a telecommunications offerings region located in a portion of the GUI; means for generating, in the telecommunications offerings region, a voice telecommunications offerings sub-region for providing access to voice telecommunications offerings; means for generating, in the telecommunications offerings region, an Internet telecommunications offerings sub-region for providing access to Internet telecommunications offerings; and means for generating, in the telecommunications offerings region, a mobile telecommunications offerings sub-region for providing access to mobile telecommunications offerings.

According to another aspect of the invention, there is provided a graphical user interface (GUI) apparatus for servicing telecommunications offerings on-line, including means for generating a search region located in a central portion of the GUI, the search region including a search for dropdown list, a search criteria sub-region, and reset and search buttons; and means for generating a tab region located in an upper portion of the GUI and including log off, user home, manage agents, customer home, shop, and cart tabs. The search for dropdown list is configured to select from a plurality of search items, including orders, customers, and move, change or disconnection (MCD) of an order, the search criteria sub-region is configured with fields and dropdown lists for entering search criteria information for a selected search item, the reset button is configured to clear entered search criteria information, the search button is configured to perform a search based on entered search criteria information, the log off tab is configured to log off a user from an on-line session, the user home tab is configured to display the search region, the manage agents tab is configured to display a window for creating and managing users of the GUI, the customer home tab is configured to display a customer facing GUI, the shop tab is configured to display web links to information on the telecommunications offerings, and the cart tab is configured to display a window including a shopping cart function.

Still other aspects, features, and advantages of the present invention are readily apparent from the following detailed description, simply by illustrating a number of particular embodiments and implementations, including the best mode contemplated for carrying out the present invention. The present invention is also capable of other and different embodiments, and its several details can be modified in various respects, all without departing from the spirit and scope of the present invention. Accordingly, the drawing and description are to be regarded as illustrative in nature, and not as restrictive.

BRIEF DESCRIPTION OF THE DRAWINGS

The present invention is illustrated by way of example, and not by way of limitation, in the figures of the accompanying drawings and in which like reference numerals refer to similar elements and in which:

FIG. **1** is a top-level block diagram illustrating a system for procuring telecommunications products and/or services;

FIG. **2** is a flowchart illustrating a flow for procuring telecommunications products and/or services;

FIG. **3** is a top-level block diagram illustrating a system for procuring telecommunications products and/or services on-line;

FIG. **4** is a flowchart illustrating a flow for procuring telecommunications products and/or services on-line;

FIG. **5***a* is a top level block diagram illustrating a logical architecture employed in the system for a graphical user interface for procuring telecommunications products on-line;

FIGS. **5***b*–**5***c* are exemplary screen shots illustrating a customer graphical user interface for procuring telecommunications products on-line;

FIGS. **5***d*–**5***r* are exemplary screen shots illustrating a customer graphical user interface for procuring telecommunications products on-line;

FIGS. **6***a*–**6***t* are exemplary screen shots illustrating a back office graphical user interface for procuring telecommunications products on-line; and

FIG. **7** is an exemplary computer system, which may be programmed to perform one or more of the processes of the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

The following commonly owned co-pending U.S. patent application Ser. No. 10/051,180, filed Jan. 22, 2002, entitled "Method And System For Providing Software Integration For A Telecommunications Services On-Line Procurement System," and U.S. patent application Ser. No. 10/051,282, filed Jan. 22, 2002, entitled "Method And System For Procuring Telecommunications Services On-Line,", are incorporated herein by reference.

A graphical user interface procuring telecommunications products on-line are described. In the following description, for purposes of explanation, numerous specific details are set forth in order to provide a thorough understanding of the present invention. It is apparent to one skilled in the art, however, that the present invention may be practiced without these specific details or with an equivalent arrangement. In some instances, well-known structures and devices are shown in block diagram form in order to avoid unnecessarily obscuring the present invention.

The present invention includes recognition of problems associated with tradition systems and methods for procuring telecommunications products and/or services. In FIG. **1**, a system **100** for procuring telecommunications products and/or services is shown and includes one or more customers **102** and **104** and customer devices **102***a* and **104***a* (i.e., a telephone and personal computer) coupled to a communications network **106** (i.e., a Public Switched Telephone Network (PSTN) or the Internet). Numerous personnel **108**, such as core customer representatives, implementation engineers, implementation coordinators, order distributors, etc., via devices **108***a*, can connect to the communications network **106** and are employed for procuring telecommunications products and/or services for the customers **102** or **104** under such flow.

FIG. **2** is a flowchart illustrating a flow for procuring telecommunications products and/or services in the system **100**. In FIG. **2**, at step **202**, the customer **102** or **104** is pre-qualified by a core customer representative **108** for telecommunications products and/or services desired by the customer **102** or **104**. At step **204**, customer contract and information are entered by the core customer representative **108**. At step **206**, a contract package and forms needing signatures are generated by the core customer representative **108**. At step **208**, an implementation engineer **208** performs a technical review of the telecommunications products and/or services desired by the customer **102** or **104**. At step **210**, validation and submission to order entry for the telecommunications products and/or services desired by the customer **102** or **104** are performed by an implementation coordinator **108**. At step **212**, order entry for the telecommunications products and/or services desired by the customer **102** or **104** is performed by the implementation coordinator, the implementation engineer and/or the order distributor **108**. At step **214**, order tracking is performed by the implementation coordinator **108**, completing the flow for procuring telecommunications products and/or services.

Accordingly, such flow involves numerous personnel **108** and time-consuming processing steps **202–214** in order to procure telecommunications products and/or services for the customer **102** or **104**. The present invention addresses the problems with such flow for procuring telecommunications products and/or services and is further described with reference to FIGS. **3–6**.

Referring to the drawings, wherein like reference numerals designate identical or corresponding parts throughout the several views, and more particularly to FIG. **3** thereof, there is illustrated is a top level block diagram of a system **300** for procuring telecommunications products and/or services on-line, according to the present invention. In FIG. **3**, the system **300** may include, for example, one or more customers **302**, **304** and **306** and respective customer devices **302***a*, **304***a* and **306***a* (e.g., telephones, personal computers, handheld devices, etc.) for procuring telecommunications products and/or services on-line. The devices **302***a*, **304***a* and **306***a* may be coupled to a telecommunications service procurement system **310** via a communications network **308** (e.g., a Public Switched Telephone Network (PSTN), the Internet, an Intranet, etc.).

For devices **302***a*, such as conventional telephony devices, wireless telephony devices, etc., the present invention may be implemented via voice command, speech synthesis, Dual-Tone MultiFrequency (DTMF) input, etc., functions provided in the devices **302***a* and corresponding voice activated menu, speech recognition, DTMF detection, etc., functions provided by the telecommunications service procurement system **310** over the communications network **308** and based on the processes described in the present invention, as will be appreciated by those skilled in the relevant art(s).

For devices **304***a*, such personal computers, etc., the present invention may be implemented via the use of web browser, graphical user interface (GUI), etc., functions provided in the devices **304***a* and corresponding web server, etc., functions provided by the telecommunications service procurement system **310** over the communications network **308** and based on the processes described in the present invention, as will be appreciated by those skilled in the relevant art(s).

For devices **306***a*, such as personal digital assistants (PDAs), etc., the present invention may be implemented via the use of Wireless Application Protocol (WAP), Microsoft CE, Palm OS, GUI, etc., functions provided in the devices **306***a* and corresponding web server, etc., functions provided by the telecommunications service procurement system **310** over the communications network **308** and based on the processes described in the present invention, as will be appreciated by those skilled in the relevant art(s).

The system **300** and the telecommunications service procurement system **310** are further described in the commonly owned co-pending U.S. patent application to Felkey et al., filed herewith, entitled "METHOD AND SYSTEM FOR PROCURING TELECOMMUNICATIONS SERVICES ON-LINE," Ser. No. 10/051,282. The system **300** includes software integration, which is further described in the commonly owned co-pending U.S. patent application to Felkey et al., filed herewith, entitled "METHOD AND SYSTEM FOR PROVIDING SOFTWARE INTEGRATION FOR A TELECOMMUNICATIONS SERVICES ON-LINE PROCUREMENT SYSTEM," Ser. No. 10/051,180.

Customer service personnel **314** and/or "swivel-chair" operators **316** may access the telecommunications service procurement system **310**, for example, via a back office graphical user interface (GUI) running on the devices **314***a* and **316***a* over, for example, a proprietary communications network **312** (e.g., an Intranet, a virtual private network, etc.) in order to procure telecommunications products and/or services for the customers **302**, **304** or **306**. The customer

service personnel **314** may provide, for example, customer service functions, while the swivel-chair operators **316** may be assigned to, for example, process accepted orders, process modified orders, process supplemental orders, etc.

Similarly, the customers **302**, **304** or **306** may order telecommunications products and/or services on-line via a customer GUI running on the devices **302***a*, **304***a* and **306***a* over the communications network **308**. The back office GUI and the customer GUI are further described herein with respect to FIGS. **5–6**.

In FIG. **3**, the devices **302***a*, **304***a* and **306***a* and the respective devices **314***a* and **316***a* of the customer service personnel **314** and the swivel-chair operators **316** may communicate with the telecommunications service procurement system **310** using, for example, TCP/IP via the communications networks **308** and **312**, respectively. The devices **302***a*, **304***a* and **306***a* and the devices **314***a* and **316***a* may include a modem function (e.g., dial-up, DSL, cable, wireless, etc.) that can log in to the telecommunications service procurement system **310** with user validation (e.g., via a personal identification number (PIN), user name and password, etc.).

The telecommunications service procurement system **310** may include all software and hardware to provide, for example, user account maintenance, validation and access control level (ACL) information, a directory server where a customer's personal information is kept, etc. The devices **302***a*, **304***a* and **306***a*, the devices **314***a* and **316***a*, the telecommunications service procurement system **310**, etc., may be implemented using one or more of the computer system **701** of FIG. **7**, for example.

Accordingly, the devices **302***a*, **304***a* and **306***a*, the devices **314***a* and **316***a*, the telecommunications service procurement system **310**, etc., may include any suitable servers, workstations, personal computers (PCs), personal digital assistants (PDAs), Internet appliances, other devices, etc., capable of performing the processes of the present invention. The devices **302***a*, **304***a* and **306***a*, the devices **314***a* and **316***a*, the telecommunications service procurement system **310**, etc., may communicate with each other using any suitable protocol via the communications networks **308** and **312**.

It is to be understood that the system **300** in FIG. **3** is for exemplary purposes only, as many variations of the specific hardware used to implement the present invention are possible, as will be appreciated by those skilled in the relevant art(s). For example, the functionality of one or more of the devices **302***a*, **304***a* and **306***a*, the devices **314***a* and **316***a*, the telecommunications service procurement system **310**, etc., may be implemented via one or more programmed computers or devices. To implement such variations as well as other variations, a single computer (e.g., the computer system **701** of FIG. **7**) may be programmed to perform the functions performed by, for example, the devices **314***a* and **316***a* shown in FIG. **3**. On the other hand, two or more programmed computers or devices, for example as in shown FIG. **7**, may be substituted for any one of the devices **302***a*, **304***a* and **306***a*, the devices **314***a* and **316***a*, the telecommunications service procurement system **310**, etc., of FIG. **3**. Principles and advantages of distributed processing, such as redundancy, replication, etc., may also be implemented as desired to increase the robustness and performance of the system **300**, for example.

The communications networks **308** and **312** may be implemented via one or more communications networks (e.g., the Internet, an Intranet, a wireless communications network, a satellite communications network, a cellular communications network, a Public Switched Telephone Network (PSTN), a hybrid network, etc.), as will be appreciated by those skilled in the relevant art(s). In a preferred embodiment of the present invention, the communications networks **308** and **312** may employ electrical, electromagnetic, optical signals, etc., that carry digital data streams, as are further described with respect to FIG. **7**.

FIG. **4** is a flowchart illustrating a flow for procuring telecommunications products and/or services on-line, according to the present invention. In FIG. **4**, at step **402**, the customer **302**, **304** or **306** is pre-qualified and orders telecommunications products and/or services via the customer GUI. At step **404**, technical review, validation and submission to order entry are performed by a service coordinator (e.g., customer service personnel **314**, swivel-chair operators **316**, etc.). At step **406**, order entry for the telecommunications products and/or services desired by the customer **302**, **304** or **306** is performed by the service coordinator. At step **408**, order tracking is performed by the service coordinator, completing the flow for procuring telecommunications products and/or services, according to the present invention.

Accordingly, the flow for procuring telecommunications products and/or services, according to the present invention, does not involve numerous personnel **108** or time-consuming processing steps **202–210**, in order to procure telecommunications products and/or services for a customer, as compared to the flow of FIGS. **1** and **2**. Thus, the present invention addresses the noted problems with flow for procuring telecommunications products and/or services.

The graphical user interface for procuring telecommunications products on-line may now be described with reference to FIGS. **5–6**.

FIG. **5***a* is a top level block diagram illustrating a logical architecture employed in the system **310** for a customer graphical user interface for procuring telecommunications products on-line, according to the present invention. In FIG. **5***a*, the logical architecture includes a web tier **502***a*, an application tier **504***a*, a database tier **506***a* and a service availability tool (SAT) **508***a*. The application tier **504***a* communicates with the database tier **506***a* using, for example, Java DataBase Connectivity (JDBC). The application tier **504***a* communicates with the SAT **508***a* using, for example Internet Inter-ORB Protocol (IIOP).

The web tier **502***a* is responsible for delivering web content **512***a* (e.g., HyperText Markup Language (HTML) pages, static content, images, Javascript scripts and cascading style sheets, etc) to the client machines **302***a*, **304***a* and **306***a* and **314***a* and **316***a* of FIG. **3**. A customer graphical user interface (GUI) **544***a* is provided for the client machines **302***a*, **304***a* and **306***a* over the communications network **308** as described herein. A back office graphical user interface (GUI) **544***a* is provided for the client machines **314***a* and **316***a* over the communications network **312** as described herein. The swivel chair **316** and the customer service **314** personnel can perform swivel chair/back office functions via the back office GUI **542***a*.

The client machines **302***a*, **304***a* and **306***a* and **314***a* and **316***a* running a web browser (e.g., Internet Explorer, Netscape, etc.) and via the respective GUIs **544***a* and **542***a* connect requested web pages and images from the web site via, for example, HyperText Transport Protocol (HTTP) and HyperText Transport Protocol Secure (HTTPS). Although lower layers generate the system's HTML pages, the web tier **502***a* manages the building blocks of the HTML pages

(e.g., the content **512***a*, etc.). The HTTP and HTTPS requests are passed to a web server **510***a*. The web server **510***a* serves up requests that it can fulfill and forwards user actions and HTML requests to a presentation tier **524***a*.

The application tier **504***a* includes the presentation tier **524***a* framework (e.g., Cygent's presentation tier framework, etc.). Functionality from the presentation tier **524***a* framework (e.g., Cygent's Small Business Portal, etc.) is leveraged to build a customer portal **532***a*. This is achieved by reusing and/or configuring the existing JavaServer Pages (JSPs) and objects including transition and display policies of the presentation tier framework **524***a*.

A back office portal **530***a*, on the other hand, is custom constructed, but designed with the presentation tier **524***a* framework (e.g., the Cygent framework, etc.) in mind. In other words, the pages are named in a consistent manner with the rest of the portals, and the same is true for the transition policies and display policies and objects.

The application tier **504***a* includes a business and integration tier **526***a* (e.g., Cygent's Business tier and Integration tier, etc.). The business and integration tier **526***a* is a home for various components, such as activity and domain objects of three functional areas included therein: order management **528***a*, online ordering **534***a* and user management **536***a*. In FIG. **5***a*, communications messaging interfaces (CMIs) and handlers are included in the business and integration tier **526***a*. The business and integration tier **526***a* communicate with the presentation tier **524***a* using, for example, Remote Method Invocation (RMI).

Domain objects to handle the ordering functionality (e.g., Cygent's ordering functionality domain objects, etc.) were extended and a custom CMI and pricing adapter as an extension to a pricing scheme (e.g., Cygent's pricing scheme, etc.) were designed. Activity objects also referred to as managers or controllers (e.g., Cygent managers or controllers, etc.) are used to coordinate the ordering activities and functions. Business rules (e.g., Cygent, etc.) to constrain the ordering activities as needed are also employed. Existing database **542***a* tables (e.g., Cygent, etc.) are used to persist online ordering data. Additional tables are designed to extend such schema. Such tables are also mapped to display objects and domain objects (e.g., using a TopLink for Java tool, etc.).

Pre-qualifying a customer **302**, **304** or **306** for products and/or services employs an application to make a call out to the SAT **508***a*, which is, for example, Common Object Request Broker Architecture (CORBA) based. A custom CMI and adapter was designed to handle that function.

The system hardware and software are further described in the commonly owned co-pending U.S. patent applications to Felkey et al., filed herewith, entitled "METHOD AND SYSTEM FOR PROVIDING SOFTWARE INTEGRATION FOR A TELECOMMUNICATIONS SERVICES ON-LINE PROCUREMENT SYSTEM," Ser. No. 10/051,180, "METHOD AND SYSTEM FOR PROCURING TELECOMMUNICATIONS SERVICES ON-LINE," Ser. No. 10/051,282.

The web site of the present invention allows businesses to, for example, research telecommunications products and/or services, obtain price quotes, order those products and services, track order status, receive monthly statements, manage their account at any time, etc. The web site also allows the web site's customer support team members (e.g., the customer support **314** and swivel chair operator **316** personnel, etc.) to retrieve and process orders, track and update status, and interactively assists customers **302**, **304** and **306**.

This following description describes such features, functions and processes of the present invention. The web site home page is a customer-facing avenue to various services. Once registered, a customer can take full advantage of the many features. Such as, browsing products to learning about the many services on the web site.

FIG. **5***b* is an exemplary screen shot illustrating the customer graphical user interface (GUI) **544***a* of the web site including, for example, links **502***b* to residential, business and small business customer home pages. A search field and button **506***b* is provided for searching the web site or the Internet. Links **508***b* and **512***b* include, for example, links to information about the web site, information for telecommunications products and service for residential, business and small business customers, tools and resources, career opportunities, news articles, investor relations, etc., which may be displayed in section **504***b*. Stock prices and worldwide site information may be provided in section **510***b*.

FIG. **5***c* is an exemplary screen shot illustrating another page of the customer GUI **544***a* including, for example, links **502***c* to information about what the web site can do for customers, links **504***c* for providing information about the telecommunications products and services provided by the web site, on-line tools **508***c*, such a tool for researching telecommunications products and service, a product match maker tool, a proposal or quote generator tool, a technical consultant tool, such as on-line chat, instant messaging, etc., an on-line ordering tool, etc.

Also provide are, for example, a link **510***c* for accessing information about featured products and/or services, a link **512***c* for accessing information about special offers, member's login section **514***c*, a search area **516***c*, etc.

FIG. **5***d* is an exemplary screen shot illustrating the customer GUI **544***a* including, for example, a customer account section **502***d* for logging in using a user name and password **504***d* via a "log in" button **506***d*. A "forgot password" button **508***d* is provided for existing customers for generating an e-mail to the customer with password information. A "sign up now" link **510***d* is provided for new customers.

The GUI **544***d* also includes, for example, a support section **512***d* with links **514***d* to customer support, links **516***d* for real time chat or instant messaging with customer support personnel, etc., a search section **518***d*, links to shopping cart and checkout functions **520***d*, an on-line glossary **522***d*, on-line help **524***d*, privacy information **526***d*, information about the web site **528**, etc. Also provide are, for example, a section **530***d* for graphic illustrations, a products and services section **532***d* including, voice **540***d*, Internet **542***d*, mobile telecommunications **544***d*, etc., products and services, a product category description section **534***d* with high level product description **546***d*, dropdown menus **548***d* for the respective products, etc. Links **566***d*, for example, to pertinent articles **536***d*, featured products and/or services **538***d*, etc., also are provided.

Registering on the web site requires a minimal amount of information. Once registered, a customer may log in whenever they visit the site to access full site functionality. To register, a customer clicks on the "sign up now" button **510***d* and an exemplary registration page shown in FIG. **5***e* is displayed. The customer enters the noted information **502***e* and clicks on "continue" or "cancel" buttons **504***e*. A confirmation page displays.

FIG. **5***f* is an exemplary screen shot illustrating of the web site page for a logged in customer. To log out of a customer session, the customer clicks on the "log out" button **502***f*.

The web site page for the logged in customer also includes, for example, an "account review" link **504***f*, a "saved product info" link **506***f*, an "invite colleagues" link **508***f*, a "notification list" link **510***f*, an "edit profile link" **512***f*, etc.

Once registered and in future visits, a customer may save their shopping cart from session to session, track and manage services, etc. If the customer wishes to edit his/her profile, he/she clicks the "edit profile" button **512***f* and the exemplary registration screen shown in FIG. **5***g* is generated. In the registration screen the customer enters customer profile information **502***g* (e.g., first name, last name, etc.) and **506***g* (e.g., password, password confirmation, etc.), clicks on the "submit changes" or "cancel" buttons **504***g* and a confirmation page displays.

As a registered and logged in customer, the customer, for example, can order the web site products and services and save the details of his/her order for future decisions via the shopping cart function **520***d*. The web site glossary **522***d* allows a customer look up technical terms and unfamiliar words. The keyword search function **518***d* is available to help locate items. Using quotes around terms with "and" therebetween may be used to refine a search. In this case, the search engine searches, for example, the pages that contain both or all of the keywords entered. Using quotes around terms with "or" therebetween may be used to expand a search. In such a case, the search engine will search for pages containing any of the keywords entered.

There are a variety of telecommunications products and/or services that may be reviewed on the web site. To browse any of the web site's suites of products and services, a customer links to the product information **532***d* by the category **540***d*, **542***d*, **544***d*, etc., of the product desired. The products may be categorized, for example, in three areas **540***d*, **542***d* and **544***d* each including an overview of the product offering. For example, a "voice center" category **540***d* may include "complete calling," "long distance," "toll free," "conferencing," "calling card," etc., products and/or services, a "net connect" category **542***d* may include "dial up Internet," "dedicated Internet" etc., products and/or services, a "mobile solutions" category **544***d* may include "paging," "conferencing," "calling card," "dial up," etc., products and/or services, etc.

For information and review of a particular product or service, for example, in the "net connect" category **542***d*, the customer clicks on the "net connect" category **542***d* and the dropdown list **548***d* of the various products in the "net connect" category **542***d* appears. Clicking on "overview" in the dropdown list **548***d* provides additional product information. Clicking on the product and/or service in the dropdown list **548***d* results in product and/or service information for the selected product appearing. Clicking on a "learn more" button provides additional price and product information.

A product quote may be obtained by navigating down into the product and/or service desired. For example, if a customer wishes to obtain a quote for "long distance" under the "voice center" category **540***d*, the customer clicks on the "voice center" category **540***d* and a list of products **548***d* is generated. The customer then selects "long distance" from the list **548***d* and clicks on "save this info" to save a quote. The customer may click on the "saved product info"button **506***f* to run the quote at a later time. FIG. **5***h* is an exemplary screen shot of a product quote page, for example, including, product or service information **502***h*, a "product advisor" button **504***h*, a related articles button **506***h*, a product "details" button **508***h*, etc. As shown in FIG. **5***i*, the product quote page may include, for example, "order now," "add to cart," "save this info," etc., buttons **502***i*.

Typically orders are entered on-line directly by the customer. The customer inquires for a quote in the web site, saves it to a shopping cart, accepts the "terms and conditions" to see a shopping cart summary, supplies billing and credit information and finally clicks on a "submit" button to submit the shopping cart information. This causes the web site system, for example, to convert the shopping cart information into an order, add tracking information, send notification to the web site's in-house credit department, send a notification message to the customer, initialize the order to prompt the back office for operational support system (OSS) application (e.g., OrderPro, etc.) processing, etc.

In the above processing, clicking on the "order now" button **502***i* of the product quote page of FIG. **5***i* displays the exemplary product order registration form shown in FIG. **5***j*. Existing customers then enter their user name and password **504***j* and click on the "continue" button **506***j* an exemplary product order form of FIG. **5***k* is displayed. New customers are referred to section **508***j* and click on the "continue" button **510***j* to start the registration process. It is noted that, advantageously, a new customer does not have to register on the web site until he/she is ready to purchase products and/or services in order to not turn away potential customers not wishing to have to register as a precondition to shopping on-line.

The order process then involves the customer completing all information on a product order form, clicking on a "continue" button at which point a billing page displays. If previous orders have been placed on the web site customer information is automatically populated. The customer then selects a payment method from a dropdown list and clicks on a "continue" button and an exemplary order review page shown in FIG. **5***k* displays.

The customer may then review the order detail and click on "submit" or "cancel" buttons **514***k*. When the order is submitted, an order confirmation page displays. A copy of the confirmation page can be printed by clicking on "Print" button. The order review page of FIG. **5***k* includes, for example, an accept terms and conditions section **510***k*, order contact information **502***k*, product information **506***k*, product pricing information **504***k*, billing information **508***k*, etc., which may be edited via respective "edit" buttons **512***k*. After the customer is finished reviewing the order page he/she clicks on the "submit" button **514***k* and an exemplary order confirmation page shown in FIG. **5***l* displays and the order is submitted. The order confirmation page may include, for example, a confirmation notice **502***l* and "send," "clear" and "to manage services" buttons **504***l*.

To review order status, a customer clicks on the "account review" button **504***f* and an exemplary account review page of FIG. **5***m* displays. This page provides details on all orders processed to the account. To obtain further details on an order, the customer clicks on a "details" link **508***m* for a respective order in the order summary section **506***m* and an exemplary order status and details screen of FIG. **5***n* displays. The order status and details screen may include, for example, a message section **502***n*, a status tracker **504***n* (e.g., showing steps completed in the order, etc.), service details **506***n*, pricing and billing information **508***n*, a modify service section **510***n* (e.g., move, change, other service, etc.), "submit" and "cancel" buttons **512***n*, etc.

An "MCD" operation is defined in the web site as a Move, Change or Disconnection of an order after the order has been

entered into the OSS order application (e.g., OrderPro, etc.) and fulfilled. An MCD is a service change request. To enter an MCD a customer choose the action to be performed, for example, "move," "change," "disconnect," etc., from the modify service section **510***n*. The customer then enters information about the MCD requests (e.g., contact information, etc.) and clicks on the "submit" or "cancel" buttons **512***n*. A confirmation page displays.

The shopping cart may be triggered when "add to cart" button is selected displaying an exemplary shopping cart page shown in FIG. **5***o*. Once a product is in the shopping cart a customer may change the product quantity in section **506***o*, remove an item from the cart via "remove" via buttons **512***o*, update the order via an "update" button **504***o*, clear the entire cart via a "clear cart" button **510***o*, obtain further product details by clicking on a product in the section **506***o*, print the cart, e-mail the cart, proceed to checkout via button **508***o*, etc.

A customer may obtain technical support by navigating to the technical support page on the web site by clicking on the "help" button **524***d*. An exemplary help page with a help message **502***p* as shown in FIG. **5***p* displays. The customer then navigates to a "technical support" link on a section **504***p* of the help page. From this link the information (e.g., browser specifications and requirements, cookies, spawning windows, bookmarks, etc.) can be obtained and displayed in sections **506***p*.

Questions and help assistance with all products or the order process can be obtained by using the "support and solve link" **512***d* to display an exemplary help page shown in FIG. **5***q*. The customer then may click on a "chat," "e-mail," "schedule a call," etc., buttons **506***q*" in section **504***q* to perform a requested with the customer support team (e.g., the customer support **314** and swivel chair operator **316** personnel, etc.).

To use the chat feature and contact a specialist on the customer support team (e.g., the customer support **314** and swivel chair operator **316** personnel, etc.), a customer clicks on the "open chat" button **506***q* and an exemplary open chat dialogue box of FIG. **5***r* displays. A welcome message is displayed in the section **502***r* and the customer types his/her inquiry in a text box **504***r* or clicks on an "exit" button to end the chat session. A copy of the chat session may be printed via a "print" button.

FIG. **6***a* is an exemplary screen shot illustrating a logged in user "search" screen **602***a* of the back office graphical user interface (GUI) **542***a* of the web site after a customer support team member (e.g., the customer support **314** and swivel chair operator **316** personnel, etc., also referred to a "user") is logged in. To log in to the back office GUI **542***a*, the user points his/her browser to a back office log in IP address and enters his/her user name and password in user name password fields provide in a log in form and clicks a "sign in" button. To log out of a back office session, the user chooses a "log off" tab located in section **604***a*. The section **604***a* also includes, for example, "user home," "manage agents," "customer home," "shop, cart," etc., tabs. The search screen **602***a* also includes, for example, a "search for" dropdown list **606***a*, a search criteria section **608***a*, "reset" and "search" buttons **610***a*, a "reports" section **612***a*, a maintain "NASP ID" link **614***a*, etc.

If a user forgets his/her password, a back office administrator may reset same. Each back office customer support team member has a user account for the web site back office GUI **542***a*. An Administrator may be employed to register new back office users.

An "administrative" login gives a different level of access or permissions. An "administrator," a person who has administrative permissions, may, for example, register new back office users, reset a user's password, create, modify, and delete back office users, etc.

To create and manage back office users, the administrator clicks on a "manage agents" tab in section **604***a*, clicks on a "create" button **608***b* in an exemplary "manage agents" screen **602***b* shown in FIG. **6***b*, completes "create agent detail information" fields and clicks a "continue" button. To view or modify back office users, the administrator selects an agent from a list box **606***b* and clicks on a "modify" button **610***b*.

To modify or make changes to a back office user's profile shown in an exemplary screen **602***c* of FIG. **6***c*, the administrator makes changes and clicks on "save" or "cancel" buttons **606***c*. Such changes may include, for example, changes to a user's password, other information, etc., in section **604***c*. A dropdown list **604***b* may be used to select a "user type" for filtering purposes.

The administrator may also assigning orders to an integration engineer (IE). To do the administrator performs a search from the screen of FIG. **6***a* for an order to be assigned and an order search results page displays. The administrator then clicks a link to an order number in the search results page to display an exemplary "order detail" screen **602***d* of FIG. **6***d* displays. The administrator then navigates to an "assigned IE" field in the information section **604***d* and from a pull down list chooses and IE for order assignment and clicks on an "update" button **608***d*. The order detail screen **602***d* also includes, for example, "previous" and "next," buttons **610***d*, an order summary section **606***d*, a "back" button **612***d*, a "notes" button **614***d*, etc.

The administrator may also maintain a NASP ID by clicking on the link **614***a* in the screen of FIG. **6***a* in which case an exemplary "maintain NASP ID" screen **602***e* of FIG. **6***e* displays. The administrator may then update NASP threshold and ranges by entering a new start and end range for NASP IDs in section **604***e* and clicking a "create new range" button **606***e* and by entering a new threshold and clicking a "save threshold" button **608***e*. A "cancel" button **610***e* is also provided.

To reset a customer's password, a user clicks on the "user home" tab in section **604***a*, enters a customer's search using the dropdown list **606***a* and the search criteria **608***a*. An exemplary customer search results page **602***f* shown in FIG. **6***d* displays. The search results page **602***f* includes, for example, "back," "previous," "next," etc., buttons **610***f*, search results summary area **604***f*, sort up down buttons **608***f*, etc.

The user then selects the customer from links **606***f* in the results page **602***f* and an exemplary customer summary page **602***g* shown in FIG. **6***g* displays. The customer summary page **602***g* includes, for example, a customer information section **606***g*, "view notes," "manage users," "modify customer information," "create MCD," links, etc., section **604***g*.

To reset the selected customer's password, the user clicks on the "manage users" link in section **604***g* and an exemplary "manage users" screen **602***h* of FIG. **6***h* displays. The user then clicks on a "reset password" button in a section **606***h* of the screen **602***h* to reset the password for the user. A confirmation text message in "red" displays in the screen **602***h* an e-mail is sent to the customer with new password information. The screen **602***h* may also include, for example, "back," "modify," "unlock user," "activate/inactivate," etc., tabs in the section **606***h* and other user information in section **604***h*.

User profiles can be managed in the back office for both customers **302**, **304** and **306** and back office users **314** and **316**. A user may view a customer profile by clicking on the "user home" tab in section **604***a* of FIG. **6***a*. To display the entire list of customers **302**, **304** and **306**, the user select "customer" from search dropdown list **606***a* and clicks on the "search" button **610***a*. A list of all customers **302**, **304** and **306** displays as shown in FIG. **6***f*. To search for a specific customer or company, the user enters a username/company in the search criteria **608***a* and clicks on the search button **610***a*. From the search results page, the user clicks on the "View Customer Profile" link **606***f* and the customer summary page of FIG. **6***g* appears. The user then may update customer profile information by clicking on the "modify customer information" link in the section **604***g* of the "customer summary" screen **602***g* of FIG. **6***g* in which case an exemplary "modify customer" screen of FIG. **6***i* displays. The user may then make the appropriate changes to the customer information fields **604***i*, billing address **606***i* fields and payment information fields **608***i*. The user then clicks on the "modify" or "cancel" buttons in section **610***i* of the screen **602***i*.

To view a profile of back office personnel, the administrator chooses a "user type" from the dropdown list **604***b* of FIG. **6***b*, chooses a user from the filtered list, **606***b*, and clicks on the "modify" button **610***b* to change or view the selected user's profile shown in FIG. **6***c*.

To view a service address, from the "customer summary" screen **602***g* of FIG. **6***g*, the user clicks on a "view service address" link in the customer information section **606***g* and the exemplary screen **602***j* of FIG. **6***j* displays. The user may then enter/view service address details **604***j* and **606***j*. Module—7 Browsing Products From the Back Office

A back office user may obtain product information by activating the "shop" tab in section **604***a* of FIG. **6***a*. Selecting the "shop" tab display an exemplary screen **602***k* shown in FIG. **6***k* including product links **604***k*. Clicking on a product link **604***k* displays product details as shown in the exemplary screens of FIGS. **6***l* and **6***m* and including product details **604***l*, "back" and "add to cart" buttons **606***l*, and **606***m*, pricing details **604***m*, etc.

With the above screens, a user can enter or complete an order for a customer by clicking the "add to cart" button in which case the shopping cart of FIG. **6***o* appears. The user can then remove, delete a specific item, empty items, empty all items in the cart, update, update the quantity, shop more, continue to shop and add more products, checkout, proceed to the complete the order, etc., for the customer, via sections **604***o*–**608***o*.

For example, to proceed to checkout, depending on the type of product ordered a product configuration page may appear and if so the user fills out the requested fields and clicks a "next" button. The order details may be reviewed and clicking on a "submit" button commences processing of the order. Otherwise, the user clicks on the "back," "cancel" etc., buttons in section **608***o*.

To view an order, the user enters an order search, a list of orders appears, the user navigates to the specific order to be viewed, or clicks on the order number to view the order details or clicks the customer name to display customer and order details. To change the status of a submitted order, the user navigates to the order details page of FIG. **6***o*, choose a specific product on section **606***o* of order detail page, from a "status" column in section **604***o* clicks a "submitted" link to drill down into an order status as shown in the exemplary screen **602***p* of FIG. **6***p*. The user in section **604***p* then uses a "change status to" dropdown list to select a new order status. The user then clicks on a "save and send" button in section **606***p* to generate an e-mail shown in FIG. **6***q*. The user may also click on a "save and not send" e-mail button or a "cancel" button in section **606***p*. In a similar manner, tracking the status of an order, updating of order status, etc., may be performed by a user for a customer.

The user may also enter an MCD, by navigating and then clicking on the "create MCD" link of section **604***g* of the screen **602***g* of FIG. **6***g* in which case the exemplary "create MCD" page of FIG. **6***r* displays. The user may then enter the MCD information (Move, Change or Disconnect details) **604***r*–**606***r* and click a "continue" button **610***r*. An exemplary verification screen **602***s* of FIG. **6***s* displays. The user then may check all information **604***s* and click a "continue" button **606***s*. An exemplary "MCD Successfully Completed" verification screen **602***t* as shown in FIG. **6***t* displays including the submitted MCD information **604***t*.

In addition, searching of an "order," "customer," "MCD," etc., can be performed via the dropdown list **606***a* of the search screen **602***a* of FIG. **6***a*. Further, reports can be created, modified, etc., via the report section **612***a*.

The present invention may store information relating to various processes described herein. Such information may be stored in one or more memories, such as a hard disk, optical disk, magneto-optical disk, RAM, etc. One or more databases, such as the databases included in the systems and methods of FIGS. **3**–**6**, may store the information used to implement the present invention. The databases may be organized using data structures (e.g., records, tables, arrays, fields, graphs, trees, and/or lists) included in one or more memories, such as the memories listed above or any of the storage devices listed below in the discussion of FIG. **7**, for example.

The previously described processes may include appropriate data structures for storing data collected and/or generated by the systems and processes of FIG. **3**–**6** in one or more databases thereof. Such data structures accordingly may include fields for storing such collected and/or generated data. In a database management system implementation, data may be stored in one or more data containers, each container including records and the data within each record may be organized into one or more fields. In a relational database systems implementation, the data containers may be referred to as tables, the records may be referred to as rows and the fields may be referred to as columns. In an object-oriented database implementation, the data containers may be referred to as object classes, the records may be referred to as objects and the fields may be referred to as attributes. Other database architectures may be employed and may use other terminology. Systems that implement the present invention may not be limited to any particular type of data container or database architecture.

All or a portion of the invention (e.g., as described with respect to FIGS. **3**–**6**) may be conveniently implemented using one or more conventional general purpose computers, microprocessors, digital signal processors, microcontrollers, etc., programmed according to the teachings of the present invention (e.g., using the computer system of FIG. **7**), as will be appreciated by those skilled in the computer art. Appropriate software may be readily prepared by programmers of ordinary skill based on the teachings of the present disclosure, as will be appreciated by those skilled in the software art. In addition, the present invention (e.g., as described with respect to FIGS. **3**–**6**) may be implemented by the preparation of application-specific integrated circuits

or by interconnecting an appropriate network of conventional component circuits, as will be appreciated by those skilled in the electrical art(s). Further, the present invention may be implemented on the World Wide Web (e.g., using the computer system of FIG. **7**).

FIG. **7** illustrates a computer system **701** upon which the present invention (e.g., systems and methods of FIGS. **3–6**, etc.) may be implemented. The present invention may be implemented on a single such computer system or a collection of multiple such computer systems. The computer system **701** includes a bus **702** or other communication mechanism for communicating information, and a processor **703** coupled to the bus **702** for processing the information. The computer system **701** also includes a main memory **704**, such as a random access memory (RAM), other dynamic storage device (e.g., dynamic RAM (DRAM), static RAM (SRAM), synchronous DRAM (SDRAM)), etc., coupled to the bus **702** for storing information and instructions to be executed by the processor **703**. In addition, the main memory **704** can also be used for storing temporary variables or other intermediate information during the execution of instructions by the processor **703**. The computer system **701** further includes a read only memory (ROM) **705** or other static storage device (e.g., programmable ROM (PROM), erasable PROM (EPROM), electrically erasable PROM (EEPROM), etc.) coupled to the bus **702** for storing static information and instructions.

The computer system **701** also includes a disk controller **706** coupled to the bus **702** to control one or more storage devices for storing information and instructions, such as a magnetic hard disk **707**, and a removable media drive **708** (e.g., floppy disk drive, read-only compact disc drive, read/write compact disc drive, compact disc jukebox, tape drive, and removable magneto-optical drive). The storage devices may be added to the computer system **701** using an appropriate device interface (e.g., small computer system interface (SCSI), integrated device electronics (IDE), enhanced-IDE (E-IDE), direct memory access (DMA), or ultra-DMA).

The computer system **701** may also include special purpose logic devices **718**, such as application specific integrated circuits (ASICs), full custom chips, configurable logic devices (e.g., simple programmable logic devices (SPLDs), complex programmable logic devices (CPLDs), field programmable gate arrays (FPGAs), etc.), etc., for performing special processing functions, such as signal processing, image processing, speech processing, voice recognition, infrared (IR) data communications, etc.

The computer system **701** may also include a display controller **709** coupled to the bus **702** to control a display **710**, such as a cathode ray tube (CRT), liquid crystal display (LCD), active matrix display, plasma display, touch display, etc., for displaying or conveying information to a computer user. The computer system includes input devices, such as a keyboard **711** including alphanumeric and other keys and a pointing device **712**, for interacting with a computer user and providing information to the processor **703**. The pointing device **712**, for example, may be a mouse, a trackball, a pointing stick, etc., or voice recognition processor, etc., for communicating direction information and command selections to the processor **703** and for controlling cursor movement on the display **710**. In addition, a printer may provide printed listings of the data structures/information of the systems and methods shown in FIGS. **3–6**, or any other data stored and/or generated by the computer system **701**.

The computer system **701** performs a portion or all of the processing steps of the invention in response to the processor **703** executing one or more sequences of one or more instructions contained in a memory, such as the main memory **704**. Such instructions may be read into the main memory **704** from another computer readable medium, such as a hard disk **707** or a removable media drive **708**. Execution of the arrangement of instructions contained in the main memory **704** causes the processor **703** to perform the process steps described herein. One or more processors in a multi-processing arrangement may also be employed to execute the sequences of instructions contained in main memory **704**. In alternative embodiments, hard-wired circuitry may be used in place of or in combination with software instructions. Thus, embodiments of the present invention are not limited to any specific combination of hardware circuitry and/or software.

Stored on any one or on a combination of computer readable media, the present invention includes software for controlling the computer system **701**, for driving a device or devices for implementing the invention, and for enabling the computer system **701** to interact with a human user (e.g., a user of the systems and methods of FIGS. **3–6**, etc.). Such software may include, but is not limited to, device drivers, operating systems, development tools, and applications software. Such computer readable media further includes the computer program product of the present invention for performing all or a portion (if processing is distributed) of the processing performed in implementing the invention. Computer code devices of the present invention may be any interpretable or executable code mechanism, including but not limited to scripts, interpretable programs, dynamic link libraries (DLLs), Java classes and applets, complete executable programs, Common Object Request Broker Architecture (CORBA) objects, etc. Moreover, parts of the processing of the present invention may be distributed for better performance, reliability, and/or cost.

The computer system **701** also includes a communication interface **713** coupled to the bus **702**. The communication interface **713** provides a two-way data communication coupling to a network link **714** that is connected to, for example, a local area network (LAN) **715**, or to another communications network **716**, such as the Internet. For example, the communication interface **713** may be a digital subscriber line (DSL) card or modem, an integrated services digital network (ISDN) card, a cable modem, a telephone modem, etc., to provide a data communication connection to a corresponding type of telephone line. As another example, communication interface **713** may be a local area network (LAN) card (e.g., for Ethernet™, an Asynchronous Transfer Model (ATM) network, etc.), etc., to provide a data communication connection to a compatible LAN. Wireless links can also be implemented. In any such implementation, communication interface **713** sends and receives electrical, electromagnetic and/or optical signals that carry digital data streams representing various types of information. Further, the communication interface **713** can include peripheral interface devices, such as a Universal Serial Bus (USB) interface, a PCMCIA (Personal Computer Memory Card International Association) interface, etc.

The network link **714** typically provides data communication through one or more networks to other data devices. For example, the network link **714** may provide a connection through local area network (LAN) **715** to a host computer **717**, which has connectivity to a network **716** (e.g. a wide area network (WAN) or the global packet data communication network now commonly referred to as the "Internet") or to data equipment operated by service provider. The local network **715** and network **716** both use electrical, electro-

magnetic and/or optical signals to convey information and instructions. The signals through the various networks and the signals on network link **714** and through communication interface **713**, which communicate digital data with computer system **701**, are exemplary forms of carrier waves bearing the information and instructions.

The computer system **701** can send messages and receive data, including program code, through the network(s), network link **714** and communication interface **713**. In an Internet example, a server (not shown) might transmit requested code belonging to an application program for implementing an embodiment of the present invention through the network **716**, LAN **715** and communication interface **713**. The processor **703** may execute the transmitted code while being received and/or store the code in storage devices **707** or **708** or other non-volatile storage for later execution. In this manner, computer system **701** may obtain application code in the form of a carrier wave. With the system of FIG. **7**, the present invention may be implemented on the Internet as a Web Server **701** performing one or more of the processes according to the present invention for one or more computers coupled to the Web server **701** through the network **716** coupled to the network link **714**.

The term "computer readable medium" as used herein refers to any medium that participates in providing instructions to the processor **703** for execution. Such a medium may take many forms, including but not limited to, non-volatile media, volatile media, transmission media, etc. Non-volatile media include, for example, optical or magnetic disks, magneto-optical disks, etc., such as the hard disk **707** or the removable media drive **708**. Volatile media include dynamic memory, etc., such as the main memory **704**. Transmission media include coaxial cables, copper wire, fiber optics, including the wires that make up the bus **702**. Transmission media can also take the form of acoustic, optical, or electromagnetic waves, such as those generated during radio frequency (RF) and infrared (IR) data communications. As stated above, the computer system **701** includes at least one computer readable medium or memory for holding instructions programmed according to the teachings of the invention and for containing data structures, tables, records, or other data described herein. Common forms of computer-readable media include, for example, a floppy disk, a flexible disk, hard disk, magnetic tape, any other magnetic medium, a CD-ROM, CDRW, DVD, any other optical medium, punch cards, paper tape, optical mark sheets, any other physical medium with patterns of holes or other optically recognizable indicia, a RAM, a PROM, and EPROM, a FLASH-EPROM, any other memory chip or cartridge, a carrier wave, or any other medium from which a computer can read.

Various forms of computer-readable media may be involved in providing instructions to a processor for execution. For example, the instructions for carrying out at least part of the present invention may initially be borne on a magnetic disk of a remote computer connected to either of networks **715** and **716**. In such a scenario, the remote computer loads the instructions into main memory and sends the instructions, for example, over a telephone line using a modem. A modem of a local computer system receives the data on the telephone line and uses an infrared transmitter to convert the data to an infrared signal and transmit the infrared signal to a portable computing device, such as a personal digital assistant (PDA), a laptop, an Internet appliance, etc. An infrared detector on the portable computing device receives the information and instructions borne by the infrared signal and places the data on a bus. The bus conveys the data to main memory, from which a processor retrieves and executes the instructions. The instructions received by main memory may optionally be stored on storage device either before or after execution by processor.

While the present invention has been described in connection with a number of embodiments and implementations, the present invention is not so limited but rather covers various modifications and equivalent arrangements, which fall within the purview of the appended claims.

What is claimed is:

1. A method for procuring telecommunications offerings on-line, comprising:

presenting a graphical user interface (GUI), comprising,

a telecommunications offerings region located in a portion of the GUI,

the telecommunications offerings region including, a voice telecommunications offerings sub-region for providing access to voice telecommunications offerings,

an Internet telecommunications offerings sub-region for providing access to Internet telecommunications offerings,

a mobile telecommunications offerings sub-region for providing access to mobile telecommunications offerings; and

an order region for supporting ordering of one of the voice telecommunications offerings, one of the internet telecommunications offerings, or one of the mobile telecommunications offerings.

2. The GUI of claim **1**, wherein each of the voice, Internet and mobile telecommunications offerings sub-regions includes a dropdown menu for displaying telecommunications offerings included therein.

3. The GUI of claim **2**, wherein each of the voice, Internet and mobile telecommunications offerings sub-regions includes a high level description of the telecommunications offerings included therein; and

the dropdown menu is configured to display over the high level description.

4. The GUI of claim **2**, wherein the voice offerings dropdown menu includes at least one of a web link to a complete calling package of telecommunications offering, a web link to a long distance telecommunications offering, a web link to a toll free telecommunications offering, a web link to a conferencing telecommunication offering, and web link to a calling card telecommunications offering.

5. The GUI of claim **2**, wherein the Internet telecommunications offerings dropdown menu includes at least one of a web link to a dial up Internet telecommunications offering, and a web link to a dedicated Internet telecommunications offering.

6. The GUI of claim **2**, wherein the mobile telecommunications offerings dropdown menu includes at least one of a web link to a paging telecommunications offering, a web link to a conferencing telecommunications offering, a web link to a calling card telecommunication offerings, and a web link to dial up telecommunications offering.

7. The GUI of claim **1**, further comprising:

an account access region configured to provide log in and password retrieval functions for existing customers, and to provide a registration function for new customers; and

a service and support region configured to provide a support information function and one of an on-line chat and instant messaging functions.

8. The GUI of claim **7**, wherein after an existing customer logs in via the log in function, the log in function of the account access region is replaced with a log out function and a welcome message; and

the password retrieval and registration functions are replaced with account review, saved product information, notification list, invite colleagues and profile editing functions.

9. The GUI of claim 7, wherein the service and support region includes a web link to an online tool for matching a telecommunications offering with needs of a customer.

10. The GUI of claim 7, wherein the service and support region includes a web link to an on-line tool for qualifying a customer for a telecommunications offering.

11. The GUI of claim 7, wherein the service and support region includes a web link to an on-line demonstration of a process for procuring a telecommunications offering.

12. The GUI of claim 7, wherein the service and support region includes a web link to an on-line shared white board for network diagramming.

13. The GUI of claim 7, wherein the service and support region includes a web link to at least one of listings of partner telecommunications offerings and services available for research and purchase on-line, information describing how specific telecommunications offerings can help businesses and information highlighting growth telecommunications offerings and services.

14. The GUI of claim 7, wherein the account access region includes at least one of a web link to content personalized for an existing customer; a web link for providing access to existing orders, a web link an electronic billing application; a web link to an order tracking function; a web link to a status checking function; and a web link for at least one of sending a page, scheduling a conference call, providing online directory assistance, and providing access to tailored information on one of telecommunications offerings ordered and related telecommunications offerings.

15. The GUI of claim 1, further comprising a region in the GUI for displaying a graphic related to the telecommunications offerings.

16. The GUI of claim 1, further comprising:

a region in the GUI for providing web links to shopping cart, search, glossary, and help functions, and web links to privacy and web site information.

17. Computer-readable media storing computer-executable instructions for performing the steps recited in claim 1.

18. A computer system including a browser configured to display the GUI recited in claim 1.

19. A server including a server program configured to transmit data for displaying the GUI recited in claim 1.

20. A method for servicing telecommunications offerings on-line, comprising:

presenting a graphical user interface (GUI), comprising,

a search region located in a central portion of the GUI, the search region including a search for dropdown list, a search criteria sub-region, and reset and search buttons; and

a tab region located in an upper portion of the GUI and including log off, user home, manage agents, customer home, shop, and cart tabs,

wherein the search for dropdown list is configured to select from a plurality of search items, including orders, customers, and move, change or disconnection (MCD) of an order, the search criteria sub-region is configured with fields and dropdown lists for entering search criteria information for a selected search item, the reset button is configured to clear entered search criteria information, the search button is configured to perform a search based on entered search criteria information, the log off tab is configured to log off a user from an on-line session, the user home tab is configured to display the search region, the manage agents tab is configured to display a window for creating and managing users of the GUI, the customer home tab is configured to display a customer facing GUI, the shop tab is configured to display web links to information on the telecommunications offerings, and the cart tab is configured to display a window including a shopping cart function.

21. The GUI of claim 20, wherein the GUI is configured to provide order and status tracking functions via the order item from the search for dropdown list, the search criteria information for the selected search item, and the search button.

22. The GUI of claim 20, wherein the GUI is configured to provide an order entry function via the shop and cart tabs.

23. Computer-readable media storing computer-executable instructions for performing the steps recited in claim 20.

24. A computer system including a browser configured to display the GUI recited in claim 20.

25. A server including a server program configured to transmit data for displaying the GUI recited in claim 20.

26. A method for generating a graphical user interface (GUI) for procuring telecommunications offerings on-line, comprising:

generating a telecommunications offerings region located in a portion of the GUI;

generating, in the telecommunications offerings region, a voice telecommunications offerings sub-region for providing access to voice telecommunications offerings;

generating, in the telecommunications offerings region, an Internet telecommunications offerings sub-region for providing access to Internet telecommunications offerings;

generating, in the telecommunications offerings region, a mobile telecommunications offerings sub-region for providing access to mobile telecommunications offerings; and

generating an order region for supporting ordering of one of the voice telecommunications offerings, one of the Internet telecommunications offerings, or one of the mobile telecommunications offerings.

27. Computer-readable media storing computer-executable instructions for performing the steps recited in claim 26.

28. A server including a server program configured to transmit data for performing the steps recited in claim 26.

29. A method for generating a graphical user interface (GUI) for servicing telecommunications offerings on-line, comprising:

generating a search region located in a central portion of the GUI, the search region including a search for dropdown list, a search criteria sub-region, and reset and search buttons; and

generating a tab region located in an upper portion of the GUI and including log off, user home, manage agents, customer home, shop, and cart tabs,

wherein the search for dropdown list is configured to select from a plurality of search items, including orders, customers, and move, change or disconnection (MCD) of an order, the search criteria sub-region is configured with fields and dropdown lists for entering search criteria information for a selected search item, the reset button is configured to clear entered search criteria information, the search button is configured to perform a search based on entered search criteria information, the log off tab is configured to log off a user from an on-line session, the user home tab is configured to display the search region, the manage agents tab is configured to display a window for creating and managing users of the GUI, the customer home tab is configured to display a customer facing GUI, the shop tab is configured to display web links to information on the telecommunications offerings, and the cart tab is configured to display a window including a shopping cart function.

30. Computer-readable media storing computer-executable instructions for performing the steps recited in claim 29.

31. A server including a server program configured to transmit data for performing the steps recited in claim 29.

32. A method for generating graphical user interfaces (GUIs) for procuring and servicing telecommunications offerings on-line, comprising:

generating a telecommunications offerings region located in a portion of a first GUI;

generating, in the telecommunications offerings region, a voice telecommunications offerings sub-region for providing access to voice telecommunications offerings;

generating, in the telecommunications offerings region, an Internet telecommunications offerings sub-region for providing access to Internet telecommunications offerings;

generating, in the telecommunications offerings region, a mobile telecommunications offerings sub-region for providing access to mobile telecommunications offerings;

generating a search region located in a central portion of a second GUI, the search region including a search for dropdown list, a search criteria sub-region, and reset and search buttons; and

generating a tab region located in an upper portion of the second GUI and including log off, user home, manage agents, customer home, shop, and cart tabs.

33. The method of claim 32, wherein the search for dropdown list is configured to select from a plurality of search items, including orders, customers, and move, change or disconnection (MCD) of an order, the search criteria sub-region is configured with fields and dropdown lists for entering search criteria information for a selected search item, the reset button is configured to clear entered search criteria information, the search button is configured to perform a search based on entered search criteria information, the log off tab is configured to log off a user from an on-line session, the user home tab is configured to display the search region, the manage agents tab is configured to display a window for creating and managing users of the GUI, the customer home tab is configured to display a customer facing GUI, the shop tab is configured to display web links to information on the telecommunications offerings, and the cart tab is configured to display a window including a shopping cart function.

34. Computer-readable media storing computer-executable instructions for performing the steps recited in claim 32.

35. A system for procuring and servicing telecommunications offerings on-line, comprising:

a server including a server program configured to transmit data for generating a customer GUI on a customer computer, the customer GUI including a telecommunications offerings region, including a voice telecommunications offerings sub-region for providing access to voice telecommunications offerings, an Internet telecommunications offerings sub-region for providing access to Internet telecommunications offerings, and a mobile telecommunications offerings sub-region for providing access to mobile telecommunications offerings;

the server program configured to generate a back office GUI on a back office computer, the back office GUI including a search region located in a central portion thereof and including a search for dropdown list, a search criteria sub-region, and reset and search buttons; and

the back office GUI including a tab region located in an upper portion thereof and including log off, user home, manage agents, customer home, shop, and cart tabs.

36. The system of claim 35, wherein the search for dropdown list is configured to select from a plurality of search items, including orders, customers, and move, change or disconnection (MCD) of an order, the search criteria sub-region is configured with fields and dropdown lists for entering search criteria information for a selected search item, the reset button is configured to clear entered search criteria information, the search button is configured to perform a search based on entered search criteria information, the log off tab is configured to log off a user from an on-line session, the user home tab is configured to display the search region, the manage agents tab is configured to display a window for creating and managing users of the back office GUI, the customer home tab is configured to display a customer facing GUI, the shop tab is configured to display web links to information on the telecommunications offerings, and the cart tab is configured to display a window including a shopping cart function.

37. A graphical user interface (GUI) apparatus for procuring telecommunications offerings on-line, comprising:

means for generating a telecommunications offerings region located in a portion of the GUI;

means for generating, in the telecommunications offerings region, a voice telecommunications offerings sub-region for providing access to voice telecommunications offerings;

means for generating, in the telecommunications offerings region, an Internet telecommunications offerings sub-region for providing access to Internet telecommunications offerings;

means for generating, in the telecommunications offerings region, a mobile telecommunications offerings sub-region for providing access to mobile telecommunications offerings; and

means for generating an order region for supporting ordering of one of the voice telecommunications offerings, one of the Internet telecommunications offerings, or one of the mobile telecommunications offerings.

38. A graphical user interface (GUI) apparatus for servicing telecommunications offerings on-line, comprising:

means for generating a search region located in a central portion of the GUI, the search region including a search for dropdown list, a search criteria sub-region, and reset and search buttons; and

means for generating a tab region located in an upper portion of the GUI and including log off, user home, manage agents, customer home, shop, and cart tabs,

wherein the search for dropdown list is configured to select from a plurality of search items, including orders, customers, and move, change or disconnection (MCD) of an order, the search criteria sub-region is configured with fields and dropdown lists for entering search criteria information for a selected search item, the reset button is configured to clear entered search criteria information, the search button is configured to perform a search based on entered search criteria information, the log off tab is configured to log off a user from an on-line session, the user home tab is configured to display the search region, the manage agents tab is configured to display a window for creating and managing users of the GUI, the customer home tab is configured to display a customer facing GUI, the shop tab is configured to display web links to information on the telecommunications offerings, and the cart tab is configured to display a window including a shopping cart function.

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